

**DRAFT COMPLETION OF WORK REPORT
VOLUME 3: APPENDICES A AND B**

**FOR THE
CAMP EDWARDS IMPACT AREA
GROUNDWATER QUALITY STUDY**

**MASSACHUSETTS MILITARY RESERVATION
CAPE COD, MASSACHUSETTS**

Prepared for

**NATIONAL GUARD BUREAU
ARLINGTON, VIRGINIA**

Prepared by

**OGDEN ENVIRONMENTAL AND ENERGY SERVICES
239 Littleton Road, Suite 1B
Westford, Massachusetts 01886**

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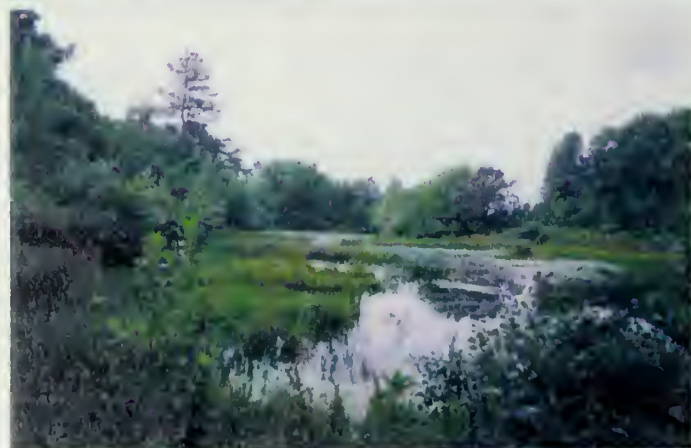
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OGDEN

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 9

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 320 feet DATE STARTED: 8-20-97 DATE FINISHED: 9-11-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1	0-0.5			Dark yellowish brown SILT, some medium sand, trace gravel and clay, 10YR3/4. ML-SM	S01DAA (0-0.5) S01DBA (1.5-2)	0.0	
5								5
10	S-1	10-12	9-21-23-22	12				10
	S-2	12-14	13-24-29-38	14	Pale brown fine to coarse SAND, little silt, trace fine to medium gravel, 10YR8/4. SP	S01DCA (10-14)	0.0	
15								15
20	S-3	20-22	26-42-70-43	18	Very pale brown fine to coarse SAND, trace silt and fine to medium gravel, 10YR8/4. SP	S01DDA (20-22)	0.0	20
25								25
30	S-4	30-32	31-16-13-15	18				30
	S-5	32-34	11-14-30-53		Very pale brown fine to coarse SAND, trace silt and fine to medium gravel, 10YR8/3. SP	S01DEA (32-34)	0.0	

BORING LOG

BORING NO. MW-1

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
40	S-6	40-42	11-17-20-21	18	Very pale brown fine to coarse SAND, trace silt and fine to medium gravel, 10YR8/3. SP	S01DFA (40-42)	0.0	40
45								45
50	S-7	50-52	10-12-18-20	18	Very pale brown fine to coarse SAND, trace silt and fine gravel, 10YR8/3. SP	S01DGA (50-52)	0.0	50
55								55
60	S-8	60-62	8-11-22-26	12	Light yellow brown fine to coarse SAND, little silt, trace fine to medium gravel, 10YR6/4. SP	S01DHA (60-64)	0.0	60
65	S-9	62-64	11-18-20-35	13				65
70	S-10	70-72	15-19-34-40		Light yellow brown fine to coarse SAND, trace fine to medium gravel and silt, 10YR6/4. SP	S01DIA (70-72)	0.0	70

BORING LOG

BORING NO. MW-1

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	S-11	80-82	11-17-21-31	20	Very pale brown fine to medium SAND, trace silt and fine gravel, 10YR8/3. SP	S01DJA (80'-82')	0.0	80
85								85
90	S-12	90-92	12-15-25-29	20	Very pale brown fine to medium SAND, trace silt and fine gravel, 10YR8/3. SP	S01DKA (90'-92')	0.0	90
95								95
100	S-13	100-102	4-8-10-38	15	Pale yellow fine to medium SAND, trace coarse sand and fine gravel, loose to medium dense, non-plastic, 2.5Y7/4. SP	S01DLA (100'-104')	0.0	100
	S-14	102-104	16-23-22-19	18				
105								105
110	S-15	110-112	3-10-20-30	18	Pale yellow fine to medium SAND, trace coarse sand, medium dense, non-plastic, 2.5Y7/4. SP	S01DMA (110'-112')	0.0	110

OGDEN

BORING LOG

BORING NO. MW-1PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
					Wet at 115 feet			
120	S-16	120-122	3-4-13-16	18	Light yellowish brown fine to coarse SAND, trace fine gravel, loose to medium dense, non-plastic, wet, 2.5Y6/4. SW	G01DAA (120') S01DNA (120'-122')	0	120
125								125
130					Light yellowish brown fine to coarse SAND trace fine gravel, 2.5Y6/4. SW	G01DBA (130')	0	130
135								135
140					Olive yellow fine to coarse SAND, 2.5Y6/6. SW	G01DCA (140')	0.5	140
145								145
150					Pale yellow fine to medium SAND, with coarse sand, trace fine gravel, 2.5Y7/4.	G01DDA (150')	0	150

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
160					Olive yellow medium to coarse SAND, with fine gravel, trace fine sand, 2.5Y6/6. SW	G01DEA (162')	0	160
165								165
170					Pale yellow medium to coarse SAND and fine to medium GRAVEL, trace fine sand, 2.5Y7/3. SW	no sample	0.5	170
175								175
180					Olive yellow very fine to medium SAND, 2.5Y6/6. SP	G01DGA (182')	0	180
185								185
190					Olive yellow very fine SAND, trace medium to coarse sand, 2.5Y6/6. SP	G01DHA (192')	0	190

OGDEN

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200					Pale yellow fine to medium SAND, little silt, trace coarse sand and gravel, 2.5Y7/4. SP	G01DIA (202')	0	200
205								205
210					Yellow fine to medium SAND, some gravel, trace coarse sand and silt, 10YR7/6. SP	G01DJA (212')	0	210
215								215
220					Very pale brown medium SAND, some coarse sand, trace silt and gravel, 10YR7/4. SP	G01DKA (221')	0	220
225								225
230					Olive yellow fine SAND, some silt, trace coarse sand and gravel, 2.5Y6/6. SP	G01DLA (232')		230

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
240					Light yellowish brown fine SAND and SILT, trace coarse sand, gravel, and clay, 2.5Y6/3. SM-CL	no sample	0	240
245								245
250					Pale olive fine SAND and Silt, trace coarse sand, 5Y6/3. SM	G01DNA (252')	0	250
255								255
260					Pale olive fine SAND and SILT, trace coarse sand and gravel, 5Y6/4. SM	G01DOA (262')		260
265								265
270					Light yellowish brown fine SAND, some silt, trace coarse sand, 2.5Y6/4. SM	G01DPA (272')	0	270

BORING LOG

BORING NO. MW-1

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
280					Light olive brown fine SAND, some silt, trace coarse sand and clay, 2.5Y5/6. SM-CL	G01DQA (282')	0	280
285								285
290					Light yellowish brown fine SAND, some silt, trace clay, 2.5Y6/4. SM-CL	G01DRA (292')	0	290
295								295
300					Olive gray fine SAND, some silt and gravel, trace clay, 5Y5/2. SM-CL (till)	no sample	0	300
305								305
310					Olive fine SAND and SILT, some gravel and very coarse sand, trace clay, 5Y5/3. SM (till)	no sample	0	310

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
					BEDROCK, gray granodiorite, highly weathered			
320					END OF BORING 320 FEET			320
325								325
330								330
335								335
340								340
345								345
350								350

OGDEN

BORING LOG

BORING NO. MW-2

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 10
PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber/Sonic
TOTAL DEPTH: 374 feet DATE STARTED: 10-08-97 DATE FINISHED: 10-24-97
REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1	0-0.5			Light brown SILT, little fine sand, trace medium gravel, trace clay, pieces of root, 7.5YR6/3. ML	S02DAA (0.0'-0.5') S02DBA (1.5'-2.0')	0.0	
	HA-2	1.5-2.0						
5								5
	S-1	10-12	7-12-9-9	3	Dry, very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, medium dense, 10YR8/3. SP	S02DCA (10'-14')	0.0	
10	S-2	12-14	11-13-4-7	14				10
15								15
	S-3	20-22	5-7-100/3"	11	Dry, very pale brown fine to coarse SAND, trace fine to coarse gravel, trace silt, very dense, 10YR8/3. SP	S02DDA (20'-24')	0.0	
20	S-4	22-24	8-9-50-100/3"	12				20
25								25
	S-4	30-32	3-8-100	12	Dry, very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, 10YR8/3. SP	S02DEA (30'-32')	0.0	30
30								30

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	10-15-38-40	18	Dry, light yellowish brown fine to coarse SAND, little medium to fine gravel, trace silt, very dense, 10YR6/4. SP	S02DFA (40'-42')	0.0	40
45								45
50	S-6	50-52	100/4"	0	No Recovery		0.0	50
	S-7	52-54	15-18-34-50	12	Dry, very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, 10YR8/3. SP-SW	S02DGA (52'-54')	0.0	55
55								55
60	S-8	60-62	9-26-38-17	12	Dry, light yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, 10YR6/4. SP-SW	S02DHA (60'-62')	0.0	60
65								65
70	S-9	70-72	27-13-15-13	15	Dry, light yellowish brown, fine to coarse SAND, trace medium to fine gravel, trace silt, medium dense, 10YR6/4. SW	S02DIA (70'-72')	0.0	70

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-10	80'-82'	9-100/5"	12	Dry, light yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, very dense, 2.5YR6/4. SP	S02DJA (80'-82')	0.0	80
85								85
90	S-11	90-92	100/0"	0	No Recovery			90
	S-12	92-94	50-100/0"	3	Dry, very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, 10YR8/3. SP	S02DKA (90'-92')	0.0	95
95								95
100	S-13	100-102	10-25-38-52/5"	12	Dry, light yellowish brown fine to coarse SAND, trace fine to medium gravel, trace silt, very dense, 2.5YR6/4. SP	S02DLA (100'-102')	0.0	100
105								105
110	S-14	110-112	40-41-50-15	6	Dry, light yellowish brown fine to coarse SAND, trace fine to medium gravel, trace silt, moist, very dense, 2.5YR6/4. SP	S02DMA (112'-114')	0.0	110
	S-15	112-114	15-28-50-18	12				

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120	C-16	115-125		15	Light yellowish brown medium to fine SAND with little fines, uniform, dry, 2.5Y 6/4. SP	S02DNA (122'-124')	0.4	120
125	C-17	125-130			Olive brown poorly graded SAND with silt and small gravel, dry, 2.5Y 4/4. SP-SM		0.5	125
130	C-18	130-135			Yellowish brown medium SAND, some fines, with gravel inclusions, dry, 10YR5/6. SP	S02DOA (132'-134')	0.0	130
135					water at 137 feet			135
140	C-19	135-145			Light olive brown poorly graded fine to medium SAND, clean, with gravel well rounded <3" dia., some inclusion of clay, wet, 2.5Y 5/4. SP	G02DAA (142'-146')	0.0	140
145								145
150	C-20	145-155		6	Light yellowish brown poorly graded fine to medium SAND, 2.5Y 6/4. SP	G02DBA (152'-155')	0.4	150

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160						G02DCA (160'-165')		160
165	C-21	155-175		10			0.4	165
170						G02DDA (170'-175')		170
175					Olive yellow, homogenous, medium to fine SAND with excessive fine to coarse gravel inclusions, 2.5Y6/6. SP			175
180								180
185	C-22	175-195				G02DEA (182'-186')	0.6	185
190								190
					Grades to fine SAND (190' - 195'). (SP)	G02DFA (192'-196')		

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
200					Light yellowish brown, poorly graded fine SAND clean, massive, 2.5Y6/4. SP			200
205	C-23	195-215				G02DGA (202'-206')	0.8	205
210								210
215						G02DHA (212'-216')		215
220					Pale olive, poorly graded fine SAND with trace silt, dense, 2.5Y6/4. SP			220
225	C-24	215-235				G02DIA (222'-226')	0.0	225
230						G02DJA (232'-236')		230

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
240								240
245	C-25	235-255		10		G02DKA (242'-246')	0.0	245
250								250
255					Light yellowish brown, fine to medium SAND, poorly graded, loose, massive, 2.5Y6/4. SP	G02DLA (252'-256')		255
260								260
265	C-26	255-275		20		G02DMA (262'-266')	0.5	265
270								270
						G02DNA (272'-276')		

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area

LOCATION: Camp Edwards, MA

SHEET 8 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
280					Light yellowish brown medium SAND grading to fine sand with little to no silt, 2.5Y6/4. SP			280
285	C-27	275-295				G02DOA (282'-286')	0.0	285
290								290
295						G02DPA (292'-296')		295
300					Lite yellowish brown fine to medium SAND with clay laminations appx. 3" thick layers, 2.5Y 6/4. SP			300
305	C-28	295-315				G02DQA (302'-306')	0.0	305
310						G02DRA (312'-316')		310

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
320					Olive poorly graded fine SAND, clean, homogenous, massive, 2.5y 5/6. (SP)			320
325	C-29	315-335		20		G02DSA (322'-326')	0.0	325
330								330
335						G02DTA (332'-336')		335
340								340
345	C-30	335-355		20	Light olive brown, homogenous, fine SAND, very clean, 2.5Y 5/4. (SP)	G02DUA (342'-346')	0.0	345
350						G02DVA (352'-356')		350

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 10 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
360					Poorly graded fine SAND. SP			360
365	C-31	355-374		20	Olive brown poorly graded fine to medium SAND, with silt and gravel, subangular to well rounded, 2.5Y4/4. SP-SM	No Sample		365
370						No Sample		370
375					Bedrock, pink granite			375
380					End of Boring at 379 feet			380
385								385
390								390

OGDEN

BORING LOG

BORING NO. **MW-3**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 8

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 289 feet DATE STARTED: 1-22-98 DATE FINISHED: 2-19-98

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (depth)	FID	Depth (feet)
	HA-1 HA-2	0-0.5 1.5-2				S03DAA (0'-0.5') S03DBA (0.5'-2')		
5								5
10	S-1	10-12	12-10-11-13	12	Yellowish brown, fine to coarse SAND, little silt, trace clay, dry, 10YR6/3. SW		0.8	10
	S-2	12-14	7-9-10-11	0		S03DCA (10'-16')		
15	S-3	14-16	7-7-5-9	15	Yellowish brown fine to coarse SAND, trace silt and fine to medium gravel, dry, 10YR6/3. SP		0.0	15
20	S-4	20-22	5-9-10-12	18	Yellowish brown fine to coarse SAND, trace silt and fine to medium gravel, dry, 10YR6/3. SP .	S03DDA (20'-22')	0.0	20
25								25
30	S-4	30-32	14-15-17-21	10			0.0	30
	S-5	32-34	15-17-19-23		Yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, dry, 10YR6/4. SP	S03DEA (30'-34')		

BORING LOG

BORING NO. **MW-3**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-7	40-42	11-10-13-17	10	Yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, moist, 10YR6/8. SP	S03DFA (40'-44')	0.0	40
45	S-8	42-44	15-17-19-21	18	Yellowish brown SAND, little fine to medium gravel, trace silt, moist, 10YR6/8. SP			45
50	S-9	50-52	17-19-20-24	18	Yellowish brown fine to coarse SAND, little silt, trace fine gravel, wet, 10YR6/8. SW	S03DGA (50'-52')	0.0	50
55								55
60						G03DAA (60')	0.0	60
65					Yellowish brown fine to coarse SAND, trace silt and fine gravel, wet, 10YR6/8. SW			65
70						G03DBA (70')	0.0	70
					Yellowish brown fine to coarse SAND, trace silt and fine gravel, wet, 10YR6/8. SW			

BORING LOG

BORING NO. **MW-3**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80						G03DCA (80')	0.0	80
85					Light yellowish brown fine to coarse SAND, little silt, trace fine to coarse gravel, wet, 10YR6/4. SW			85
90						G03DDA (90')	0.0	90
95								95
100					Light yellowish brown fine to coarse SAND, trace fine to coarse gravel and silt, wet, 10YR6/4. SP.	G03DEA (100')	0.0	100
105								105
110					Light brownish yellow fine to coarse SAND, little fine to coarse gravel, wet, 10YR6/6. SP	G03DFA (110')	0.0	110

BORING LOG

BORING NO. **MW-3**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120						G03DGA (120')	0.0	120
125								125
130					Light yellowish brown fine to coarse SAND, trace fine to coarse gravel and silt, wet, 10YR6/8. SP	G03DHA (130')	0.0	130
135								135
140						G03DIA (140')	0.0	140
145								145
150					Light yellowish brown fine to coarse SAND, little silt, trace fine to medium gravel, wet, 10YR6/8. SP	G03DJA (150')	0.0	150

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160						G03DKA (160')	0.0	160
165								165
170					Yellowish brown fine to coarse SAND, little silt, trace fine gravel, wet, 10YR5/5. SW	G03DLA (170')	0.0	170
175								175
180						G03DMA (180')	0.0	180
185					Yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, wet, 10YR5/5. SP			185
190						G03DNA (190')	0.0	190
					Yellowish brown fine to coarse SAND, little silt, trace fine to medium gravel, wet, 10YR5/8. SP			

BORING LOG

BORING NO. **MW-3**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200						G03DOA (200')	0.0	200
205								205
210					Yellowish brown fine to coarse SAND, little silt, trace fine to medium gravel, wet, 10YR5/8. SW	G03DPA (210')	0.0	210
215								215
220						G03DQA (220')	0.0	220
225								225
230					Yellowish brown fine to medium SAND, little silt, trace fine gravel, wet, 10YR5/8. SW	G03DRA (230')	0.0	230

BORING LOG

BORING NO. MW-3

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
240						G03DSA (240')	0.0	240
245					Yellowish brown fine to medium SAND, littlesilt, trace fine gravel, wet, 2.5Y6/4. SP			245
250						G03DTA (250')	0.0	250
255					Light yellowish brown fine to coarse SAND, trace fine to medium gravel, wet, 10YR6/4. SP			255
260						G03DUA (260')	0.0	260
265					Light yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, wet, 10YR6/4. SP			265
270					Light yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt and clay, 10YR6/4. SP-SM (Till)	G03DVA (270')	0.0	270
					weathered bedrock			

BORING LOG

BORING NO. **MW-3**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					weathered bedrock.			
280								280
285					BEDROCK, granodiorite.			285
290					End of boring 289 feet			290
295								295
300								300
305								305
310								310

BORING LOG

BORING NO. **MW-4**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 150 feet DATE STARTED: 8-14-97 DATE FINISHED: 8-18-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1	0-0.5			Yellowish brown fine SAND, some silt, trace gravel, cobbles, and boulders, nonplastic, 10YR5/8. SM	S04DAA (0'-0.5')	0.0	
	HA-2	1.5-2.0				S04DBA (1.5'-2.0')		
5								5
	S-1	10-12	16-14-17-34	18	Light brown fine to medium SAND, trace coarse sand, medium dense, non-plastic, 10YR 8/3. SP	S04DCA (10'-14')	0.0	10
	S-2	12-14	24-25-28-39	18				
15								15
	S-3	20-22	13-19-22-26	15	Very pale brown fine to coarse SAND, trace fine gravel, medium dense, non-plastic, 10YR 7/4. SW	S04DDA (20'-22')	0.0	20
25								25
					Cobbles and boulders from 25'-30'			
30	S-4	30-32	99-43-23-28	24	Pale yellow fine to coarse SAND, with fine gravel and rock fragments medium dense, non-plastic. SW	S04DEA (30'-34')	6.4	30
	S-5	32-34	27-22-24-28					

BORING LOG

BORING NO. **MW-4**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-6	40-42	21-32-32-36	18	Brown fine to coarse SAND, with rock fragments, trace fine gravel, medium dense, non-plastic, 10YR5/3. SW	S04DFA (40-44)	9.0	40
	S-7	42-44	38-39-35-45					
45								45
50	S-8	50-52	23-26-21-27	15	Pale yellow fine to medium SAND, with coarse sand, some rock fragments, medium dense to dense, non-plastic, 2.5Y7/4. SW	S04DGA (50-54)	0.6	50
	S-9	52-54	21-32-34-38					
55								55
60	S-10	60-62	9-19-30-27	24	Pale yellow fine to medium SAND, trace coarse sand, medium dense, non-plastic, 2.5YR4/2. SP	S04DHA (60-62)	0.3	60
65								65
70	S-11	70-72	17-25-29-28	0	Pale yellow fine to medium SAND, trace coarse sand, medium dense, non-plastic, 2.5Y8/3. SP	S04DIA (70-74)	0.0	70
	S-12	72-74	23-22-19-24	22				

BORING LOG

BORING NO. **MW-4**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-13	80-82	11-14-36-48	22	Pale yellow fine to medium SAND, trace coarse sand, medium dense to dense, non-plastic, 2.5Y7/3. SP	S04DJA (80'-82')		80
85								85
90	S-14	90-92	19-22-27-25	20	Pale yellow fine to medium SAND, with coarse sand, trace fine gravel, medium dense, non-plastic, 2.5Y7/3. SW	S04DKA (90'-92')	0.0	90
95								95
100	S-15	100-102	13-18-29-37	15	Pale yellow fine to medium SAND, with coarse sand, trace fine gravel, medium dense, non-plastic, 2.5Y7/3. SW	S04DLA (100'-102')	0.0	100
105								105
110	S-16	110-112	20-24-27-33	24	Pale yellow fine to coarse SAND, trace fine gravel, medium dense, non-plastic, 2.5Y7/3. SW	S04DMA (110'-112')	1.2	110

BORING LOG

BORING NO. **MW-4**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
120	S-17	120-122	14-18-31-35	22	Pale yellow fine to medium SAND, trace coarse sand and fine gravel, medium dense, non-plastic, 2.5Y7/4. SW	S04DNA (120'-122')	0.2	120
125								125
130	S-18	130-132	29-54-44-50	8	Pale yellow fine to medium SAND, with coarse sand and rock fragments, medium dense to dense, non-plastic, 2.5Y8/3. SW	S04DOA (130'-134')	4.9	130
	S-19	132-134	19-37-48-47	22				
135	S-20	135-137	16-25-29-53	18	Pale yellow fine to medium SAND, with coarse sand, medium dense to dense, non-plastic, moist, 2.5Y8/3. SW			135
140	S-21	140-142	16-22-33-38	20	Water level at 140 feet Light yellowish brown fine to medium SAND, trace coarse sand and fine gravel, medium dense to dense, non-plastic, wet, 2.5Y6/4. SW	S04DPA (140'-142')	0.0	140
145								145
150					End of boring at 150 feet			150

BORING LOG

BORING NO. **MW-5**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 10
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber/Sonic
 TOTAL DEPTH: 360 feet DATE STARTED: 10-30-97 DATE FINISHED: 11-14-97
 REMARKS: Switched from Barber drilling to Sonic drilling at 110 feet

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1	0-0.5			Dark brown fine to coarse SAND, trace silt and fine gravel, organic matter 7.5YR2.5/3. SP	S05DAA (0-0.5) S05DBA (1.5-2.0)	0.0	
5								5
10	S-1	10-12	13-50/0"	6	Light pale brown fine to coarse SAND, little fine to coarse gravel, trace silt, dry, very dense, 10YR6/3. SP	S05DCA (10-14)	0.0	10
	S-2	12-14	19-60/0"	6	boulders from 12 to 15 feet			15
15								
20	S-3	20-22	16-13-11-11	15	Light yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, dry, dense, 10YR6/4. SW	S05DDA (20-22)	0.0	20
25								25
30	S-4	30-32	18-15-13-11	18	Light yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, dry, dense, 10YR6/4. SW	S05DEA (30-32)	0.0	30

BORING LOG

BORING NO. **MW-5**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	17-15-14-11	0	No recovery			40
	S-6	42-44	75/0"	0	No recovery			
45	S-7	44-46	19-17-13-15	5	Light yellowish brown, fine to coarse SAND, trace fine to medium gravel and silt, medium dense, dry, 10YR6/4.	S05DFA (44'-46')	0.0	45
50	S-8	50-52	27-24-23-19	24	Light yellowish brown, fine to coarse SAND, little fine to coarse gravel, trace silt, dense, dry, 10YR6/4. SP-GP	S05DGA (50'-52')	0.0	50
55								55
60	S-9	60-62	12-17-18-9	18	Light yellowish brown, fine to coarse SAND, trace fine to medium gravel and silt, dense, dry, 10YR6/4. SP	S05DHA (60'-62')	0.0	60
65								65
70	S-10	70-72	17-14-15-11	5	Light yellowish brown, fine to coarse SAND, trace fine to medium gravel and silt, dense, dry, 10YR6/4. SP	S05DIA (70'-74')	0.0	70
	S-11	72-74	18-20-15-13					

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-12	80-82	8-30-35-28	12	Pale yellow fine to coarse SAND, little silt, trace fine to medium gravel, very dense, dry, 2.5YR7/4. SW	S05DJA (80'-82')	0.0	80
85								85
90	S-13	90-92	7-25-35-40	10	Pale yellow fine to coarse SAND, little silt, trace fine to medium gravel, dry, very dense, dry, 2.5YR7/4. SW	S05DKA (90'-92')	0.0	90
95								95
100	S-14	100-102	8-10-25-34	10	Light yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, dense, damp-moist, 10YR6/4. SP	S05DLA (100'-102')	0.0	100
105								105
110	S-15	110-112	10-15-22-40	15	Light yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, dense, damp-moist, 10YR6/4. SP	S05DMA (110'-112')	0.0	110

BORING LOG

BORING NO. **MW-5**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120	C-1	110-125		10	Yellowish brown, fine to medium SAND, with silt and gravel, well rounded, poorly graded, moist, 10YR5/6. SP-SM	S05DNA (110'-120')	0.0	120
125					Water table at 121'	G05DAA (121')	0.0	125
130								130
135	C-2	125-145		10	Light yellowish brown, medium SAND, with pea gravel, poorly graded, rounded to subangular, loose, 2.5Y6/4. SP	G05DBA (130'-135')		135
140								140
145						G05DCA (140'-145')		145
150	C-3	145-155		5				150
						G05DDA (152'-156')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
							0.0	
160								160
165	C-4	155-175		20	Light yellowish brown medium SAND, poorly graded, 2.5Y6/4. SP	G05DEA (162'-165')		165
170					Light yellowish brown fine SAND, poorly graded, 2.5Y6/4. SP			170
175					Light yellowish brown medium SAND, poorly graded, 2.5Y6/4. SP	G05DFA (172'-176')		175
180					Light yellowish brown fine SAND, with silt and clay inclusions, 2.5Y6/4. SP			180
185	C-5	175-195		10	Greenish gray SILT, mottled gray to brown, dense, elastic, 1Y5/1. MH	No Sample		185
190								190
					Yellowish brown fine to medium SAND, some iron staining, 10YR5/6. SP	G05DHA (192'-196')		

BORING LOG

BORING NO. **MW-5**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
200	C-6	195-215		5	Light yellowish brown SAND and GRAVEL, loose, well graded, 2.5Y6/4. SW	G05DIA (202'-206')	1.7	200
205								205
210					Light olive brown fine SAND, trace silt, 2.5Y5/4. SP	G05DJA (212'-216')	0.7	210
215	C-7	215-235		15	SAND and GRAVEL, well graded, well rounded, SW.			215
220					Light yellowish brown fine to medium SAND, with gravel inclusions, well rounded, 2.5Y6/4. SP	G05DKA (222'-226')	0.0	220
225								225
230						G05DLA (232'-236')	0.0	230

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
240							0.0	240
245	C-8	235-255		20	Light olive brown fine to medium SAND, with silt and gravel inclusions, some pebbles, well rounded to subangular, 2.5Y5/6. SP	G05DMA (242'-246')		245
250								250
255						G05DNA (252'-256')		255
260							0.0	260
265	C-9	255-275		20	Light olive brown fine to coarse SAND, with silt and gravel, well rounded, 2.5Y5/6. SP	G05DOA (262'-266')		265
270						G05DPA (272'-276')		270

BORING LOG

BORING NO. **MW-5**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
280					Olive yellow fine to coarse SAND, with silt and gravel, poorly graded, well rounded, 2.5Y6/6. SP		0.5	280
285	C-10	275-295		20	Olive brown fine SAND, dense, poorly graded, 2.5Y6/6. SP	G05DQA (282'-286')		285
290								290
295						no sample		295
300					Yellow fine SAND, dense, poorly graded, 2.5Y7/6. SP			300
305	C-11	295-315				G05DSA (302'-306')		305
310						G05DTA (312'-316')		310

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Yellow fine sand, trace silt, poorly graded, dense, 2.5Y7/6. SP		0.0	
320								320
	C-12	315-331		16	Light olive brown medium sand, with gravel, some silt, poorly graded, 2.5Y5/4. SP-SM	G05DUA (322'-326')		325
325								325
330								330
					Olive brown SAND and GRAVEL, well graded, 2.5Y4/4. SW	G05DVA (332'-336')		335
335								335
	C-13	331-345						340
340							0.0	340
					Greenish gray SILT, dense, 10GY3/1.			345
345								345
								350
350					BEDROCK, granodiorite			350

BORING LOG

BORING NO. **MW-5**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 10 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					BEDROCK, granodiorite			
360					End of boring 360 feet			360
365								365
370								370
375								375
380								380
385								385
390								390

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 118 feet DATE STARTED: 9-23-97 DATE FINISHED: 9-24-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1 HA-2	0-0.5 1.5-2.0			Brownish yellow SILT, little clay, trace fine sand and fine gravel, roots, 10YR6/6. OL	S06DAA (0'-0.5') S06DBA (1.5'-2.0')	0.0	
5								5
10	S-1	10-12	11-13-15-12	14	Light yellowish brown fine to medium SAND, some gravel, trace silt, slightly moist, loose, subrounded, 2.5Y6/4. SP	S06DCA (10'-12')	0.0	10
15								15
20								20
25	S-2	25-27	13-15-17-14	12	Light yellowish brown fine to medium SAND, some gravel, trace silt, slightly moist, loose, subrounded, 2.5Y6/4. SP	S06DDA (25'-27')	0.0	25
30								30

BORING LOG

BORING NO. **MW-6**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	ReC. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-3	34-36	11-12-13-11	10	Brown fine to coarse SAND, trace gravel, loose, subangular, dry to slightly moist, 10YR5/3. SP	S06DEA (34-36)	0.0	40
45								45
50	S-4	48-50	17-18-17-21	20	Brownish yellow fine to medium SAND, trace coarse sand and gravel, loose, slightly moist, subrounded, 10YR6/6. SW	S06DFA (48-50)	0.0	50
55	S-5 S-6	54-56 54-56	20-19-27-31 21-20-18-21	0 20	Light brownish yellow fine to medium SAND, trace coarse sand and gravel, loose, slightly moist, subrounded, 10YR6/4. SW	S06DGA (54-56)	0.0	55
60								60
65								65
70	S-7	67-69	18-20-21-22	24	Olive yellow fine to medium SAND, trace coarse sand and gravel, loose, moist, subrounded, 2.5Y6/6. SP	S06DHA (67-69)	0.0	70

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-8	74-76	14-16-21-20	24	Olive yellow medium SAND, trace fine sand and gravel, moist, loose, 2.5Y6/6. SP	S06DIA (74'-76')	0.0	80
85								85
90	S-9	87-89	23-21-22-25	20	Pale yellow fine to medium SAND, trace gravel, loose, slightly moist, 2.5Y8/4. SP	S06DJA (87'-89')	0.0	90
95	S-10	94-96	10-11-17-21	18	Pale yellow medium to coarse SAND, trace gravel and fine sand, loose, dry to slightly moist, subrounded, 2.5Y8/4. SP	S06DKA (94'-96')	0.0	95
100								100
105								105
110	S-11	107-109	9-13-19-27	12	Yellow fine SAND, trace gravel, loose to slightly dense, moist, 2.5Y7/6. SP Water at 109 feet	S06DLA (107'-109') G06DAA (109')	0.0	110
	S-12	114-116	8-9-13-15	24	Yellow medium SAND, trace fine sand, loose, saturated, 10YR7/8. SP	S06DMA (114'-116')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					End of boring at 118 feet			
120								120
125								125
130								130
135								135
140								140
145								145
150								150

OGDEN

BORING LOG

BORING NO. **MW-7**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 9

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 354.15 feet DATE STARTED: 7-29-97 DATE FINISHED: 8-25-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (depth)	FID	Depth (feet)
	HA-1 HA-2	0-0.5 1.5-2.0			Dark yellowish brown SILT, some sand, 10YR4/4. SM	S07DAA (0-0.5) S07DBA (0-0.5)	0.0	
5								5
10	S-1	10-12	30-30-35-60	14	Very pale brown coarse SAND, some rock, 10YR8/3. SP	S07DCA (10-12)	0.0	10
15								15
20	S-2	20-22	110-18-26-26	18	Very pale brown coarse SAND, poorly sorted, 10YR8/4. SP	S07DDA (20-22)	0.0	20
25								25
30	S-3 S-4	30-32 31-33	10-100-0 100-0	20 20	Grayish white GRAVEL (1/2" diameter). GW Grayish brown GRAVEL, some very pale brown coarse sand, 10YR8/4. GP	S07DEA (31-33)	0.0 0.0	30

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	100-0	0	Grayish brown GRAVEL, some very pale brown coarse sand, 10YR8/4. GP	S07DFA (42-44)	0.0	40
	S-6	42-44	100-0	18				
45								45
50	S-7	50-52	20-17-13-10	12	Very pale brown coarse SAND, 10YR8/4. SP	S07DGA (50-52)	0.0	50
55								55
60	S-8	60-62	12-3-5-4	10	Very pale brown coarse SAND, some gravel, 10YR8/4. SP	S07DHA (60-62)	0.0	60
65								65
70	S-9	70-72	15-12-16-24		Very pale brown medium SAND, 10YR8/4. SP	S07DIA (70-72)	0.0	70

BORING LOG

BORING NO. MW-7

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-10	80-82	30-21-35-35	22	Very pale brown medium SAND, 10YR8/4. SP	S07DJA (80'-82')	0.0	80
85								85
90	S-11	90-92	4-10-10-15	18	Very pale brown medium SAND, 10YR8/4. SP	S07DKA (90'-92')	0.0	90
95								95
100	S-12	100-102	49-17-18-20	18	Very pale brown medium to coarse SAND, 10YR8/4. SP	S07DLA (100'-102')	0.0	100
105								105
110	S-13	110-112		24	Very pale brown medium to coarse SAND, 10YR8/4, wet. SP	S07DMA (110'-112')	0.0	110

BORING LOG

BORING NO. **MW-7**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120								120
125								125
130					Medium to coarse SAND, little medium gravel. GP	G07DAA (130')	0	130
135					Brown fine to coarse SAND, trace silt, clay and fine gravel, 7.5Y 5/3. SP			135
140						G07DBA (140')	0	140
145					Brown fine to coarse SAND, trace medium gravel, silt, and clay, 7.5YR5/3. SP			145
150						G07DCA (150')	0	150
					Brown medium SAND, trace medium gravel, silt, and clay, 7.5YR5/3. SP			

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BORING LOG

BORING NO. **MW-7**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
160					Brown medium SAND, trace silt, clay, and fine gravel, 7.5YR5/3. SP	G07DDA (160')	0	160
165					Grayish brown coarse SAND, little silt, trace clay and fine gravel, 10YR5/2. SP-SM			165
170						G07DEA (170')	0	170
175					Grayish brown fine to coarse SAND, little silt, trace clay and fine gravel, 10YR5/2. SP-SM			175
180						G07DFA (180')	0	180
185					Grayish brown medium to coarse SAND, trace silt medium gravel, 10YR5/2. SP-SM			185
190						G07DGA (190')	0	190
					Grayish brown medium to coarse SAND, little medium gravel, trace silt, 10YR5/2. SP-SW			

BORING LOG

BORING NO. **MW-7**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200						G07DHA (200')	0	200
205					Grayish brown medium to coarse SAND, little medium gravel, trace silt, 10YR5/2. SW-SP			205
210						G07DIA (210')	0	210
215					Light yellowish brown medium to coarse SAND, some silt, trace fine gravel, 2.5YR6/4. SP-SM			215
220						G07DJA (220')	0	220
225					Light yellowish brown medium SAND, some silt, trace clay 2.5YR 6/4. SM			225
230						G07DKA (230')	0	230
					Bluish gray CLAY, trace silt, gravel, and sand, 2.5YR5/1. SC			

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BORING LOG

BORING NO. **MW-7**PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Bluish gray CLAY, trace silt, gravel, and sand, 2YR5/1. SC		0	
240					Dark grayish brown, fine to medium GRAVEL, little fine to coarse sand, trace silt and clay, 2.5YR3/1. GC	G07DLA (240')		240
245					Dark yellowish brown fine to coarse SAND, some fine gravel, trace silt, 2.5YR3/1. SW		0	245
250						G07DMA (250')		250
255					Olive brown fine to coarse SAND, some silt, trace clay and fine gravel, 2.5YR4/3. SM-SC		0	255
260						G07DNA (260')		260
265					Olive brown SILT, little fine sand, trace clay, 2.5YR 4/3. ML-SM		0	265
270						G07DOA (270')		270
					Olive brown SILT, little fine sand, trace clay, 2.5YR 4/3. ML-SM			

BORING LOG

BORING NO. **MW-7**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Olive brown SILT, little fine sand, trace clay, 2.5YR4/3. ML-SM		0	
280						G07DPA (280')		280
285					Olive brown SILT, little fine sand, trace clay, 2.5YR4/3. ML-SM		0	285
290						G07DQA (290')		290
295					Olive brown SILT, little fine sand, trace clay, 2.5YR4/3. ML-SM		0	295
300						G07DRA (300')		300
305					Light yellowish brown fine to medium SAND, Some silt, trace clay, 10YR6/4. SM		0	305
310						G07DSA (310')		310
					Light yellowish brown fine to medium SAND, Some silt, trace clay and fine gravel, 10YR6/4. SM		0	

BORING NO. MW-7

BORING NO. MW-7

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
320						G07DTA (320')		320
325					Light yellowish brown fine to medium SAND, some silt, trace clay. SM		0	325
330						G07DUA (330')		330
335					Very pale brown fine to coarse SAND, trace silt and fine to medium gravel, 10YR4/4. SP		0	335
340					Brown and gray fine to coarse GRAVEL, little fine to coarse sand, trace silt and clay (Till). GP	G07DVA (340')		340
345					Brown and gray fine to coarse GRAVEL, little fine to coarse sand, trace silt and clay, piece of rock, (Till). GP	G07DWA (343')	0	345
350					Pink and white medium to very coarse GRANITE			350
					END OF BORING 354.15 FEET			

BORING LOG

BORING NO. **MW-8**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 116 feet DATE STARTED: 10-2-97 DATE FINISHED: 10-3-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (depth)	FID	Depth (feet)
0	HA-1	0-0.5			Dark brown CLAY and SILT, little fine sand and orginic matter, 7.5YR2.5/3. OL	S08DAA (0'-0.5')	0	0
0	HA-2	1.5-2.0				S08DBA (1.5'-2.0')		0
5								5
10	S-1	10-12	5-9-14-14	3	Very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, medium dense, dry, 10YR8/4. SP	S08DCA (10'-14')	0.0	10
15	S-2	12-14	13-19-10-11	18	Very pale brown fine to coarse SAND, trace fine gravel and silt, medium dense, dry, 10YR7/4. SW			15
20	S-3	20-22	11-11-13-14	14	Light yellowishbrown fine to coarse, little silt, trace fine gravel, medium dense, dry, 10YR6/4. SW	S08DDA (20'-22')	0.0	20
25								25
30	S-4	30-32	7-17-38-35	12	Yellowish brown coarse to fine SAND, trace fine gravel and silt, very dense, dry, 10YR7/8. SP	S08DEA (30'-32')	0.0	30

BORING LOG

BORING NO. **MW-8**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	13-37-26-22	2	Yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, dry , 10YR7/8. SP	S08DFA (40-44)	0.0	40
45	S-6	42-44	10-16-18-20	18	Yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, dry , 10YR7/8. SP			45
50	S-7	50-52	18-19-30-36	16	Yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, dry , 10YR7/8. SP	S08DGA (50-52)	0.0	50
55								55
60	S-8	60-62	30-31-30-25	4	Yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, very dense, dry , 10YR7/8. SP	S08DHA (60-62)	0.0	60
65	S-9	62-64	11-23-26-24	12	Yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, very dense, dry , 10YR7/8. SP			65
70	S-10	70-72	5-16-20-25		Very pale brown fine to coarse SAND, trace silt and fine to medium gravel, dense, dry , 10YR3/4. SW	S08DIA (70-72)	0.0	70

BORING LOG

BORING NO. **MW-8**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	S-11	80-82	11-28-32-42	15	Pale yellow fine to coarse SAND, trace fine to medium gravel and silt, dry, very dense, 2.5YR4/4. SW	S08DJA (80'-82')	0.0	80
85								85
90	S-12	90-92	5-19-34-60	20	Pale yellow fine to coarse SAND, trace fine to medium gravel and silt, moist, very dense, 2.5YR4/4. SW	S08DKA (90'-92')	0.0	90
95								95
100	S-13	100-102	10-20-34-32	24	Pale brown fine to coarse SAND, trace fine gravel and silt, very dense, moist, 10YR3/4. SW	S08DLA (100'-102')	0.0	100
105								105
110	S-14	110-112	9-15-21-36	20	Light yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, medium dense, wet, 10YR6/4. SW-SP	G08DAA (110') S08DMA (110'-112')	0.0	110



BORING LOG

BORING NO. **MW-8**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					End of boring at 116 feet			
120								120
125								125
130								130
135								135
140								140
145								145
150								150

BORING LOG

BORING NO. **MW-9**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 TOTAL DEPTH: 125 feet DATE STARTED: 9-23-97 DATE FINISHED: 9-25-97
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (depth)	FID	Depth (feet)
0	HA-1 HA-2	0-0.5 1.5-2.0			Light brown fine to coarse SAND, little silt, trace clay and fine gravel, , roots, 7.5YR6/3. SP	S09DAA (0'-0.5') S09DBA (1.5'-2.0')	0.0	0
5								5
10	S-1	10-12	8-8-8-7	12	Light yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, dense, moist, 10YR 6/4. SP	S09DCA (10'-14')	25	10
15	S-2	12-14	12-10-17-10	12				15
20	S-3	20-22	18-15-23-100/2"	22	Brownish yellow fine to coarse SAND, little gravel, trace silt, medium dense, moist, 10YR6/8. SP	S09DDA (20'-22')	0.0	20
25								25
30	S-4	30-32	20-20-20-20	20	Very pale brown fine to coarse SAND, trace fine gravel and silt, dense, dry, 10YR8/3. SW	S09DEA (30'-32')	3.4	30

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
40	S-5	40-42	3-3-5-22	0	Light brownish yellow fine to coarse SAND, trace fine to medium gravel and silt, very dense, dry. SW	S09DFA (42-44)	0.0	40
	S-6	42-44	40-100/0"	6				45
50	S-7	50-52	5-29-30-60	18	Very pale brown fine to coarse SAND, trace fine to medium gravel, very dense, dry, 10YR7/4. SP	S09DGA (50-52)	0.0	50
55								55
60	S-8	60-62	150/6"	6	Very pale brown fine to coarse SAND and fine to coarse GRAVEL, trace silt, very dense, dry, 10YR6/3. SP-GP	S09DHA (60-64)		60
	S-9	62-64	35-150/6"	12				65
70	S-10	70-72	40-100/2"	4	Very pale brown fine to coarse SAND and fine to coarse GRAVEL, trace silt, very dense, dry, 10YR6/3. SP-GP	S09DIA (70-74)		70
	S-11	72-74	3-9-100/0"	10				

BORING LOG

BORING NO. **MW-9**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	S-12	80-82	9-60/0"	12	Very pale brown fine to coarse SAND, little silt, trace fine to coarse gravel, dry, very dense, 10YR4/4. SP	S09DJA (80'-82')	0.0	80
85								85
90	S-13	90-92	40-75-35/0"	12	Pale yellow fine to coarse SAND, little fine to medium gravel, trace silt, very dense, 2.5YR7/3. SP	S09DKA (90'-92')	0.0	90
95								95
100	S-14	100-102	100/6"	6	Pale yellow fine to coarse SAND, little fine to medium gravel, trace silt, very dense, 2.5YR7/3. SP	S09DLA (102'-104')	0.0	100
105	S-15	102-104	20-22-20-25	18	Pale yellow fine to coarse SAND, trace silt, medium dense, non-plastic, 2.5YR7/3.			105
110	S-16	110-112	20-100/3"	0				110
	S-17	111-112	100/0"	0				

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
					Water level at 115 feet			
120	S-18	120-122	9-10-8-8	12	Pale yellow fine to coarse SAND, trace fine to medium gravel and silt, medium dense, wet. SW	S09DNA (120'-122')	0.0	120
125					End of boring at 125 feet	G09DAA (125')		125
130								130
135								135
140								140
145								145
150								150

BORING LOG

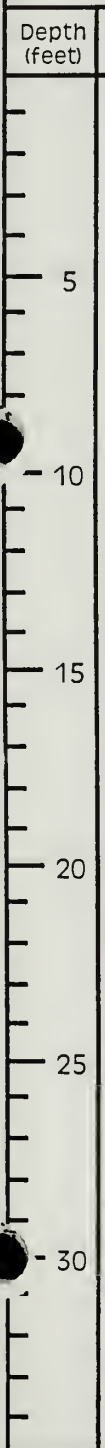

BORING NO. MW-10

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 10

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

TOTAL DEPTH: 377 feet DATE STARTED: 7-30-97 DATE FINISHED: 8-8-97

REMARKS: New FID @ 45'- 55'

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	C-1	0-5		5	Reddish Yellow fine to medium SAND, some clay and silt, trace gravel, organics, loose, 7.5 YR6/8. SM		0.0	
					Pale Yellow CLAY and SILT, some fine sand, trace fine gravel, slightly moist, soft, 2.5 Y7/3. ML		0.0	
	C-2	5-10		5				
					Very pale brown, GRAVEL and SAND, some silt, subangular to rounded, grading to sandy gravel, 10 YR7/4, (granite boulder encountered from 11.5' to 14.5'). GM		0.0	
	C-3	10-15						
					Very pale brown fine to medium SAND, some silt, poorly graded, subrounded to rounded, loose, slightly moist, 10YR7/4. SM		0.0	
20	C-4	15-25		10				20
25					Very pale brown fine to medium SAND and GRAVEL, trace cobbles, poor to medium grading dry loose, subrounded to rounded, 10YR7/4. SP		0.0	25
30	C-5	25-35		10	Grading to fine to coarse SAND, some gravel, trace cobbles.			30

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BORING LOG

BORING NO. **MW-1**PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
40	C-6	35-45		10	Very pale brown fine to medium SAND, some cobbles and boulders, trace gravel, poorly graded, loose, 10YR7/4. SP		0.0	40
45	C-7	45-50		5				45
50	C-8	50-55		5	Pale brow fine to coarse SAND, some gravel, few cobbles and boulders, well graded, subangular to rounded, 10YR6/3. SW		0.0	50
55								55
60	C-9	55-65		10			0.0	60
65								65
70	C-10	65-75		10	Pale brow fine to coarse SAND, few gravels, poor to medium graded, loose, subrounded to rounded, 10YR6/3. SP		0.0	70

BORING LOG

BORING NO. **MW-10**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	C-11	75-85		10	Pale brown fine to coarse SAND, some gravel, loose, poor to medium graded, subrounded to rounded, 10YR6/3. SP		0	80
85								85
90	C-12	85-95		10	Pale brow medium to coarse SAND, some gravel, subrounded to rounded, slightly moist, 10YR6/3. SP		0	90
95								95
100	C-13	95-105		9	Pale brown medium to coarse SAND, trace gravel, subrounded to rounded, slightly moist, 10YR6/3. SP		0	100
105								105
110	C-14	105-110		5	Pale brown fine to medium SAND, few gravel and silt, poorly graded, slightly moist, loose, subrounded to round, 10YR6/3. SP		0	110
					Light olive brown fine to medium SAND, few gravel and silt, poorly graded, slightly moist, loose, subrounded to round, 2.5Y5/4. SP		0	
	C-15	110-115			Pale brown fine to medium SAND, poorly graded, moist, loose, subrounded to round, 10YR6/3. SP		0	

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120	C-16	115-120		5	Weak cementation in grains from 115' to 116'	S10DNA (143'-146')	6.5	120
125	C-17	120-125		5	yellowish brown fine to medium SAND, trace fine gravel and silt, poorly sorted, loose, subrounded to rounded, 10YR5/6. SP		0.0	125
130	C-18	125-135		10			0	130
135					Weak cementation from 135' to 136'			135
140	C-19	135-145		10	Very pale brown fine to medium SAND, trace fine to coarse gravel and silt, poorly sorted, subrounded to rounded, 10YR7/4. SP		0	140
145					Water table at 144' to 145'			145
150	C-20	145-155			Light brown medium SAND, trace fine sand and gravel, poorly sorted, very moist, 2.5YR7/2. SP		21.5	150

BORING LOG

BORING NO. **MW-10**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
160					Weak to moderate cementation of silty fine sand at 157' to 158'	No water	10.2	160
165	C-20	155-175		3				165
170								170
175					Very pale brown fine to medium SAND, trace silt and gravel, poorly sorted, rounded to subrounded, 10YR7/4. SP	No water	0.0	175
180								180
185	C-21	175-195		13		G10DAA (183'-186')	0.0	185
190						G10DBA (193'-197')		190

BORING LOG

BORING NO. MW-10

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 10

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BORING LOG

BORING NO. **MW-10**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
240						No water	0.0	240
245	C-24	235-255		20	Olive very fine SAND, some silt, slightly plastic, medium dense, slow dilatancy, 5 Y6/3, SP	No water	0.0	245
250								250
255					Grading to a very fine SILT, with clay, some sand.			255
260						No water	0.0	260
265	C-25	255-275		20	Olive SILT, some clay, trace silt, slight to medium plasticity, moderate to rapid dilatancy, medium stiff to stiff, 5Y5/4. ML	No water	0.0	265
270								270
					Yellowish brown fine SAND, trace silt, slow dilatancy, loose to medium dense, rounded to subrounded, moist, 10 YR 5/6. SM			

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
280					Light yellowish brown fine to medium SAND, trace silt, poorly graded, subrounded to rounded, moderate plasticity, moist to wet, occasional silt and clay seam. SP		0.0	280
285	C-26	275-295		20		G10DDA (283'-286')		285
290					Grading to very fine SAND, poorly graded, moist, 10YR6/4. SP		0.0	290
295						G10DEA (293'-296')		295
300							0.0	300
305	C-27	295-315		15		G10DFA (303'-306')		305
310					Very pale brown very fine to fine SAND, trace silt, poorly graded, loose, subrounded to rounded, 10YR7/4. SP		0.0	310
						G10DGA (313'-316')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
320						No water	0.0	320
325	C-28	315-335		20	Very pale brown fine to very fine SAND, poorly graded, loose, subrounded to rounded, 10YR7/4. SP			325
330						G10DHA (327'-331')	0.0	330
335					Dark greenish gray and strong brown stratified SILT and CLAY, medium plasticity, medium stiff, Gley 1 4/1 and 7.5YR4/6. ML			335
340						No water	0.0	340
345	C-29	335-355			Dark greenish gray fine SAND, some silt, trace gravel, with pockets of silty clayey sand, medium dense, gley 1 4/1. SM			345
350						G10DIA (352'-357')		350

OGDEN

BORING LOG

BORING NO. MW-1

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 10 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
360	C-30	355-365		9	Dark greenish gray fine SAND, some silt, trace gravel, medium dense, subrounded to rounded, Gley 1 4/1. SM	No water	0.0	360
					Gray fine to coarse SAND, some silt and gravel, moderate to well graded, subangular to well rounded, loose to medium dense, non-plastic, 2.5Y5/1. GM			
365					Dark bluish gray Silt, trace sand, very stiff, slight plasticity, medium to high dry strength, Gley 2 4/1. ML	No water	0.0	365
					Bedrock (Granodiorite)			
370	C-31	365-377		6				370
375								375
380					End of boring 377 feet			380
385								385
390								390

BORING LOG

BORING NO. **MW-11**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 135 feet DATE STARTED: 8-8-97 DATE FINISHED: 8-11-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1	0-0.5			Brownish yellow SAND, some silt, trace coarse sand and fine gravel, nonplastic, 10YR6/8. SM	S11DAA (0'-0.5')	0.5	
	HA-1	1.5-2.0				S11DBA (1.5'-2.0')		
5								5
	S-1	10-12	13-20-9-11	0	Light brown fine to coarse SAND, trace fine gravel, medium dense, non-plastic, 10YR 8/3. SW			10
	S-2	12-14	11-14-14-25	12		S11DCA (12'-16')	0.5	
15	S-3	14-16	7-17-29-80	12				15
20	S-4	20-22	14-13-17-19	12	Pale yellow fine to coarse SAND, some fine to coarse gravel, medium dense, non-plastic, 2.5Y 7/3. SW	S11DDA (20'-22')	0.0	20
25					Boulders at 23 to 27 feet			25
30	S-5	30-32	49-21-26-25	18	Pale yellow fine to coarse SAND, some fine gravel, medium dense, non-plastic, 2.5Y7/3. SW	S11DEA (30'-34')	3.4	30
	S-6	32-34	16-26-32-51	18				

OGDEN

BORING LOG

BORING NO. MW-1

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-7	40-42	18-19-30-35	6	Light brownish yellow fine to coarse SAND, trace fine to medium gravel and silt, very dense, dry. SW	S11DFA (40-44)	3.7	40
	S-8	42-44	12-17-30-44				3.9	
45								45
50	S-9	50-52	12-23-18-16	15	Very pale brown fine to coarse SAND, trace fine to medium gravel, very dense, dry, 10YR7/4. SP	S11DGA (50-54)	2.0	50
	S-10	52-54	12-15-18-21	18				
55								55
60	S-11	60-62	11-14-16-22	15	Very pale brown fine to coarse SAND and fine to coarse GRAVEL, trace silt, very dense, dry, 10YR6/3. SP-GP	S11DHA (60-64)	0.4	60
	S-12	62-64	21-27-23-26					
65								65
70	S-13	70-72	8-14-20-21	23	Very pale brown fine to coarse SAND and fine to coarse GRAVEL, trace silt, very dense, dry, 10YR6/3. SP-GP	S11DIA (70-72)	3.4	70

BORING LOG

BORING NO. **MW-11**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-14	80-82	9-14-21-27	13	Light yellowish brown, medium SAND, some fine sand, trace coarse sand, moist, 2.5Y6/4. SP	S11DJA (80'-82')	0.0	80
85								85
90	S-15	90-92	9-7-10-16	23	Light brown fine to medium SAND, trace coarse sand, loose to medium dense, non-plastic, 10YR8/3. SP	S11DKA (90'-92')	0.4	90
95								95
100	S-16	100-102	11-13-20-27	20	Light brown fine to medium SAND, with coarse sand, trace fine gravel, medium dense, non-plastic, 10YR8/3. SW	S11DLA (100'-102')	0.9	100
105								105
110	S-17	110-112	7-18-28-31	24	Light brown fine to medium SAND, trace coarse sand and fine gravel, medium dense, non-plastic, 10YR8/3. SW	S11DMA (110'-112')	23.8	110

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120	S-18	120-122	9-21-28-30	24	Light yellowish brown, fine to medium SAND, some fine sand, medium dense, nonplastic, moist, 2.5Y7/3. SP Water level at 125 feet	S11DNA (120'-122')	2.3	120
125								125
130	S-19	130-132	11-15-26-31	24	Pale yellow fine to medium SAND, trace coarse sand and gravel, medium dense, non-plastic, 2.5Y7/3. SP	S11DOA (130'-132')	2.9	130
135					End of boring at 135 feet			135
140								140
145								145
150								150

OGDEN

BORING LOG

BORING NO. MW-12

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 3
PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
TOTAL DEPTH: 110 feet DATE STARTED: 8-4-97 DATE FINISHED: 8-7-97
REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
0	HA-1	0-0.5	1		Light olive yellow SAND, some silt, trace coarse sand and fine to coarse gravel, nonplastic, moist, 2.5Y5/6. SM	S12DAA (0'-0.5') S12DBA (1.5'-2.0')	2.1	0
5								5
10	S-1	10-12	18-15-30-12	8	Pale yellow, medium to coarse SAND, with fine sand and fine gravel, medium dense, nonplastic, 2.5Y 7/4. SW	S12DCA (10'-14')	0.3	10
15	S-2	12-14	34-24-16-37	18				15
20	S-3	20-22	9-11-12-14	0	Brownish yellow fine to medium SAND, trace coarse sand and gravel, medium dense, nonplastic, 10Y 6/8. SW	S12DDA (20'-24')	0.0	20
25	S-4	22-24	17-29-26-21	6			0.0	25
30	S-5	30-32	18-19-21-17	15	Pale yellow fine to medium SAND, some coarse sand and fine gravel, medium dense, non-plastic, 2.5Y2/4. SW	S12DEA (30'-32')	0.0	30

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
40	S-6	40-42	5-4-7-12	18	Light yellowish brown fine to coarse SAND, with fine gravel, loose, non-plastic, 2.5Y 6/4. SW	S12DFA (40-42)	0.0	40
45								45
50	S-7	50-52	8-11-9-9	18	Light yellowish brown fine to medium SAND, with fine gravel, loose non-plastic, 2.5Y 6/4. SW	S12DGA (50-52)	0.0	50
55								55
60	S-8	60-62	10-22-15-25	20	Very pale brown fine to medium SAND, trace coarse sand, medium dense, non-plastic, 10YR 7/3. SP	S12DHA (60-62)	0.0	60
65								65
70	S-9	70-72	12-11-10-18	12	Pale yellow fine to coarse SAND, trace coarse sand, loose to medium dense, non-plastic, 2.5Y 8/3. SP	S12DIA (70-72)	0.0	70

BORING LOG

BORING NO. **MW-12**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	S-10	80-82	5-10-20-23	18	Pale yellow, fine to medium SAND, trace coarse sand, loose to medium dense, non-plastic, 2.5Y 3/4. SP	S12DJA (80'-82')	0.0	80
85								85
90	S-11	90-92	20-16-23-25	0				90
	S-12	92-94	10-8-9-16	18	Pale yellow fine to medium SAND, trace coarse sand, loose, non-plastic, 2.5Y 7/4. SP	S12DKA (92'-94')	0.0	
95								95
					Water at 99.5 feet.			
100	S-13	100-102	8-10-14-17	24	Pale yellow fine to coarse SAND, medium dense, non-plastic, 2.5Y 7/4. SW	S12DLA (100'-102')	0.0	100
105								105
110					END OF BORING 110 FEET			110

OGDEN

BORING LOG

BORING NO. **MW13**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 8
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber/Sonic
 TOTAL DEPTH: 305' DATE STARTED: 10/20/97 DATE FINISHED: 11/4/97
 REMARKS: Switched from Barber drilling to Sonic drilling at 82 feet.

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1 HA-2	0-1.5 0-1.5				S13DAA (0'-0.5') S13DBA (0.5'-2.0')	0.0 0.0	
5								5
10	S-1	10-12	4-5-6-8	18	Very pale brown fine to coarse SAND, some silt, trace fine to medium, loose gravel, dry, 10YR7/4. SW	S13DCA (10'-12')	0.0	10
15								15
20	S-2	20-22	7-10-29-32	18	Light yellowish brown, fine to coarse SAND, trace fine to medium gravel and silt, dense, dry, 10YR6/4. SP	S13DDA (20'-22')	0.0	20
25								25
30	S-3	30-32	13-25-15-20	5	Light yellowish brown, fine to coarse SAND, trace fine to medium gravel and silt, dense, dry, 10YR6/4. SP	S13DEA (30'-34')	0.0	30
	S-4	32-34	14-27-30-18	12				

BORING LOG

BORING NO. **MW13**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	9-10-12-16	16	Very pale brown fineto coarse SAND, some fine to coarse gravel, trace silt, medium dense, dry, 10YR8/3. SP	S13DFA (40'-42')	0.0	40
45								45
50	S-6	50-52	50-100/4"	10	Very pale brown fine to coarse SAND, some fine to medium gravel, trace silt, very dense, dry, 10YR8/3. SP-GP	S13DGA (50'-52')	0.0	50
55								55
60	S-7	60-62	10-21-22-45	20	Very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, dense, dry, 10YR8/3. SP	S13DHA (60'-62')	0.0	60
65								65
70	S-8	70-72	20-28-100/4"	20	Very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, dense, dry, 10YR8/3. SP	S13DIA (70'-72')	0.0	70

PROJECT NAME: MMR Impact Area

LOCATION: Camp Edwards, MA

SHEET 3 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Groundwater approximately 75'	G13DAA (75'-80')		
80	S-9	80-82	10-30-40-50	22"	Light yellowish brown, fine to coarse SAND, some fine to medium gravel, trace silt, very dense, wet, 10YR6/4. SP	S13DJA (80'-82') G13DBA (80'-85')	0.0	80
85								85
	C-10	80-95						
90						G13DCA (90'-95')	0.0	90
95								95
100								100
					Light olive brown medium SAND, some coarse gravel and cobbles, wet, 2.5Y6/4. SP	G13DDA (100'-105')	0.0	
105	C-11	95-115 (u)		2				105
110						G13DEA (110'-115')		110

BORING LOG

BORING NO. **MW13**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120								120
125	C-12	115-135		18		G13DFA (122'-127')	0.0	125
130								130
135					Light yellowish brown medium SAND, trace gravel, 2.5Y6/4. SP	G13DGA (132'-136')		135
140							0.0	140
145	C-13	135-155		15		G13DHA (142'-146')		145
150								150
						G13DIA (152'-156')		

PROJECT NAME: MMR LOCATION: _____ SHEET 5 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160							0.0	160
165	C-14	155-175		20	Light yellowish brown medium to coarse SAND, some gravel, poorly graded, 2.5Y6/4. SP	G13DJA (162'-167')		165
170								170
175						G13DKA (172'-176')		175
180							0.0	180
185	C-15	175-195		20	Light yellowish brown fine to coarse SAND, some gravel, poorly graded, 2.5Y6/4. SP	G13DLA (182'-186')		185
190						G13DMA (192'-197')		190

BORING LOG

BORING NO. **MW13**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
200	C-16	195-215		20	Olive yellow medium to coarse SAND trace silt and gravel, well rounded, poorly graded, 2.5Y 6/6. SP	G13DNA (202'-206')	0.0	200
					Light olive brown fine SAND, some gravel, trace silt, dense, 2.5Y 5/6. SP		0.0	200
205					Pale yellow medium to coarse SAND, some gravel, well rounded, loose, poorly graded, 2.5Y 5/6. SP		0.0	205
210	C-17	215-235		20	Light olive brown fine SAND, some silt, dense, poorly graded, 2.5Y 5/6. SP-SM	G13DPA (222'-226')	0.0	215
215					Light olive brown fine SAND, some silt, loose, poorly graded, 2.5Y 5/6. SP-SM		0.0	225
220					Light olive brown fine SAND, some silt, loose, poorly graded, 2.5Y 5/6. SP-SM		0.0	230
225						G13DQA (232'-236')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
240							0.0	240
245	C-18	235-255		5	Olive brown SILT, some fine sand, 2.5Y4/3. MH	G13DRA (242'-246')		245
250								250
255						No sample		255
260					Dark greenish gray SILT, some clay, cohesive, 10GY 3/1. ML/MH		0.0	260
265	C-19	255-275		20	Brown medium SAND, some gravel and cobbles, 7.5YR 5/6. SP/SM	G13DTA (262'-266')	.0.0	265
270							0.0	270
					Dark greenish gray SILT, cohesive, 10GY 3/1. ML/MH	G13DUA (272'-276')		

BORING LOG

BORING NO. **MW13**

PROJECT NAME: MMR Impact Area

LOCATION: Camp Edwards, MA

SHEET 8 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
							0.0	
280								280
	C-20	275-289		5	Olive brown SILT, some sand and clay, trace gravel, hard, well rounded, dense, 2.5Y 4/3. ML/CL			
285								285
290					Bedrock, Granodiorite			290
295								295
300								300
305					End of Boring 305 feet			305
310								310

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 3
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 TOTAL DEPTH: 108 feet DATE STARTED: 7-21-97 DATE FINISHED: 7-28-97
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1 HA-2	0-0.5 1.5-2.0			Light brown fine SILT, some sand.	S14DAA (0'-0.5') S14DBA (1.5'-2.0')	0	
5								5
10	S-1	10-12	4-10-31-47	10	Light brown fine to coarse SAND, some silt, trace fine gravel, (gravel piece in spoon tip) loose to dense, non-plastic. SP	S14DCA (10'-12')	33.3	10
15								15
20	S-2	20-22	6-18-25-27	12	Light brown fine to coarse, trace silt and fine gravel, loose to medium dense, non-plastic. SP	S14DDA (20'-22')	0.0	20
25								25
30	S-4	30-32	38-25-15-14	10	Light brown coarse to fine SAND, trace silt and fine gravel, medium dense to dense, non-plastic. SP	S14DEA (30'-32')	0.0	30

BORING LOG

BORING NO. **MW-14**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	52-20-20-31	12	Light brown fine to coarse SAND, trace silt and fine gravel, medium dense to dense, non-plastic. SP	S14DFA (40-44)	0.0	40
45								45
50	S-6	50-52	6-7-15-21	15	Light brown fine to coarse SAND, trace silt and fine gravel, loose to medium dense non-plastic. SP	S14DGA (50-52)	0.0	50
55								55
60	S-7	60-62	4-8-18-30	8	Very pale brown fine to coarse SAND, trace silt and fine gravel, loose to medium dense, non-plastic. SP	S14DHA (60-62)	0.0	60
65								65
70	S-9	70-72	3-8-14-35	14	Very pale brown fine to coarse SAND, trace silt and fine gravel, loose to medium dense, non-plastic. SP	S14DIA (70-72)	0.0	70

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-10	80-82	21-100/1"	7				80
	S-11	82-84	30-60-20-20	24	Tan fine to coarse SAND, trace fine to coarse gravel, dense, 10YR7/3. SP	S14DJA (82'-84')	0.0	85
85								
90	S-12	90-92	30-10-19-30	24	Tan fine to coarse SAND, trace fine to coarse gravel, dense, moist, 10YR7/3. SP	S14DKA (90'-92')	0.0	90
								95
95								
100	S-13	100-102	6-5-10-16	24	Tan fine to coarse SAND, medium dense, wet, 10YR7/3. SP		0.0	100
								105
105								
110					END OF BORING 108 FEET			110

BORING LOG

BORING NO. **MW-15**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 10
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 TOTAL DEPTH: 356 feet DATE STARTED: 8-28-97 DATE FINISHED: 9-15-97
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1 HA-2	0-0.5 1.5-2.0			Light brown medium to fine SAND, little silt, trace clay, 7.5YR6/3. SP	S15DAA (0-0.5) S15DBA (1.5-2.0)	0.0	
5								5
10	S-1	10-12	2-3-2-4	6	Brownish yellow coarse SAND, trace silt and fine gravel, 10YR6/6. SP	S15DCA (10-14)	0.0	10
	S-2	12-14	4-7-8-6	5				
15								15
20	S-3	20-22	5-4-15-14	2	Very pale brown fine to coarse SAND, little fine to coarse gravel, trace silt, 10YR8/3. SP	S15DDA (20-24)	0.0	20
	S-4	22-24	6-7-10-15	3				
25	S-5	24-26	8-17-20-19	0				25
30	S-6	30-32	8-8-15-14	18	Brownish yellow fine to coarse SAND, little silt, trace fine gravel, 10YR6/6. SM	S15DEA (30-32)	0.0	30

BORING LOG

BORING NO. **MW-15**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-7	40-42			Cobbles and Boulders (no splitspoon sample)			40
45								45
50	S-8	50-52	10-17-21-26	6				50
	S-9	52-54	16-34-29-37	14	Light yellowish brown fine to coarse SAND, trace fine to medium gravel, trace silt, 10YR6/4. SP	S15DFA (50-52)	0.0	55
55								55
60	S-10	60-62	8-13-18-21	12	Light yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, 10YR6/4. SP	S15DGA (60-62)	0.0	60
65								65
70	S-11	70-72	7-7-13-14	18	Very pale brown fine to coarse SAND, little silt, trace fine gravel and rock fragments, 10YR7/3. SP	S15DHA (70-72)	0.0	70

BORING LOG

BORING NO. **MW-15**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-12	80-82	7-17-17-19	18	Very pale brown fine to coarse SAND, trace silt and fine to coarse gravel, 10YR7/3. SP	S15DIA (80'-82')	0.0	80
85								85
90	S-13	90-92	12-24-100/4"	13	Very pale brown fine to coarse SAND, trace silt and fine gravel, 10YR7/3. SP	S15DJA (90'-92')	0.0	90
95								95
100	S-14	100-102	54-100/3"	7	Light yellowish brown fine to coarse SAND, trace silt and fine to coarse gravel, 10YR6/4. SP	S15DKA (100'-102')	0.0	100
105					Wet at 107 feet			105
110					Yellowish brown fine to coarse SAND, trace silt and fine gravel, 10YR5/4. SP	G15DAA (110')		110

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120					Yellowish brown fine to coarse SAND, trace fine gravel and silt, 10YR5/4. SP	G15DBA (120')	0	120
125					Yellowish brown fine to coarse SAND, trace fine gravel and silt, 10YR5/4. SP			125
130						G15DCA (130')		130
135					Dark yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, 10YR4/6. SP-GP			135
140						G15DDA (140')		140
145					Dark yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, 10YR4/6. SP-GP			145
150						G15DEA (150')		150
					Yellowish brown fine to coarse SAND, trace fine gravel and silt, 10YR5/4. SP			

BORING LOG

BORING NO. **MW-15**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160					Yellowish brown fine to coarse SAND, trace fine gravel and silt, 10YR5/4. SP	G15DFA (160')		160
165					Yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, 10YR6/6. SP			165
170					-----	G15DGA (170')	0	170
175					Brownish yellow fine to coarse SAND, little silt, trace fine to medium gravel, 10YR6/6. SP			175
180						G15DHA (180')	0	180
185					Brownish yellow fine to medium SAND, some fine to coarse gravel, trace silt, 10YR6/6. SP-GP			185
190					Brownish yellow fine to coarse SAND, little silt, trace fine gravel, 10YR6/6. SP-SM	G15DIA (190')	0	190

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
200					Brownish yellow fine to coarse SAND, little silt, trace fine gravel, 10YR6/6. SP-SM	G15DJA (200')		200
205					Light yellowish brown fine to coarse SAND, little gravel, trace silt, 10YR6/4. SP			205
210						G15DKA (210')	0	210
215					Light yellowish brown medium to coarse SAND, little fine gravel, trace silt, 10YR6/4. SP			215
220						G15DLA (220')	0	220
225					Light yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, 10YR6/4. SP			225
230						G15DMA (230')	0	230
					Light yellowish brown fine to coarse GRAVEL and fine to coarse SAND, trace silt, 10YR6/4. GP			

BORING LOG

BORING NO. **MW-15**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
240					Light yellowish brown fine to coarse GRAVEL and fine to coarse SAND, trace silt, 10YR6/4. GP	G15DNA (240')	0	240
245					Very pale brown fine to coarse SAND, little silt, trace fine gravel, 10YR7/4. SP			245
250						G15DOA (250')	0	250
255					Very pale brown fine to coarse SAND, trace fine to coarse gravel and silt, 10YR7/4. SP			255
260						G15DPA (260')	0	260
265					Yellowish brown fine to coarse SAND, little silt, trace fine gravel, 10YR5/4. SP			265
270						G15DQA (270')	0	270
					Light yellowish brown fine to coarse SAND and fine to medium GRAVEL, trace silt, 10YR6/4. SP-GP			

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
280					Light yellowish brown fine to coarse SAND and fine to medium GRAVEL, trace silt, 10YR6/4. SP-GP	G15DRA (280')	0	280
285					Light yellowish brown fine to coarse SAND, trace fine to medium gravel, 10YR6/4. SW	G15DSA (290')	0	290
290					Light yellowish brown fine to medium GRAVEL, little fine to coarse sand, 10YR6/4. GP-SP	G15DTA (300')	0	300
295					Light yellowish brown fine to coarse SAND, little silt, trace fine gravel. SP	G15DUA (310')	0	310
300					Light yellowish brown fine to coarse SAND, some fine to medium gravel, trace silt. SP-GP			
305								
310								

BORING LOG

BORING NO. **MW-15**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
320					Light yellowish brown fine to coarse SAND, some fine to medium gravel, trace silt. SP-GP			
						G15DVA (320')	0	320
325					Yellowish brown and gray fine to coarse GRAVEL, some fine to coarse sand, trace silt. GP-SP			325
330						G15DWA (330')	0	330
335								335
340					TILL			340
						G15DXA (340')	0	340
345								345
350					BEDROCK, Pinkish gray fine to coarse grained granodiorite.			350

BORING LOG

BORING NO. **MW-10**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 10 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					End of boring 356 feet			
360								360
365								365
370								370
375								375
380								380
385								385
390								390

BORING LOG

BORING NO. **MW-16**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 10
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber/Sonic
 TOTAL DEPTH: 395' DATE STARTED: 8/20/97 DATE FINISHED: 10/15/97
 REMARKS: Switched from Barber drilling to Soinc Drilling at 82 feet

Depth (feet)	Samp No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1	0-0.5					0.0	
	HA-2	1.5-2.0			Light yellowish brown fine to coarse SAND, little silt, trace fine to medium gravel, 10YR6/4. SP	S16DAA (0'-0.5') S16DBA (1.5'-2.0') S16DCA (2'-4')		
5								5
	S-1	10-12	9-10-10-12	12	Light yellowish brown fine to coarse SAND, little fine to medium gravel, trace silt, medium dense to dense, 10YR6/4. SP	S16DDA (10'-14')	0.0	10
	S-2	12-14	10-15-18-16	18				15
15					Cobbles and Gravel			
	S-3	20-22	100/0"	0				20
	S-4	22-24	37-27-25-23	12	Very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, dense, dry, 10YR8/3. SP	S16DEA (22'-24')	0.0	25
25								
	S-5	30-32	22-100/6"	12	Very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, dense, dry, 10YR8/3. SP	S16DFA (30'-32')	0.0	30
30								

OGDEN

BORING LOG

BORING NO. MW-16

PROJECT NAME: MMR LOCATION: Camp Edwards, MA SHEET 2 OF: 10

Depth (feet)	Samp. No.	Samp Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-6	40-42	13-24-26-23	12	Light brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, dry, 2.5YR6/4. SP	S16DGA (40'-42')	0.0	40
45								45
50	S-7	50-52	11-8-6-7	12	Very pale brown fine to medium SAND, little fine to medium gravel, trace silt, dense, dry, 10YR3/4. SP	S16DHA (50'-52')	0.0	50
55								55
60	S-8	60-62	22-17-22-23	17	Very pale brown fine to medium SAND, little fine to medium gravel, trace silt, dense, dry, 10YR3/4. SP	S16DIA (60'-62')	0.0	60
65								65
70	S-9	70-72	42-37-39-47	16	Very pale brown SAND, little fine to medium gravel, trace silt, very dense, dry, 10YR3/4. SP	S16DJA (70'-72')	0.0	70

BORING LOG

BORING NO. MW-16

PROJECT NAME: MMR LOCATION: Camp Edwards, MA SHEET 3 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	S-10	80-82	4-6-6-11	3"	Very pale brown fine to medium SAND, gravel and silt, medium dense, dry, 10YR3/4. SP	S16DKA (80'-84')	0.0	80
85	S-11	82-84	15-14-17-21					85
90	C-1	90-95		5	Yellowish brown fine to coarse SAND, some silt and fine to coarse gravel, well graded, dry, 10YR5/6. SM	S16DLA (90'-95')	0.0	90
95	C-2	95-102		5	Olive brown fine to coarse SAND, well graded, 2.5Y4/4. SM	S16DMA (95'-102')	0.0	95
100								100
105	C-3	102-110		7	Dark yellowish brown SAND, some fines, poorly sorted to well graded, dry, 10YR3/6. SP-SM	S16DNA (102'-110')	0.0	105
110								110

OGDEN



BORING LOG

BORING NO. **MW-16**

PROJECT NAME: MMR LOCATION: Camp Edwards, MA SHEET 4 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120	C-4	115-120		2	Dark yellowish brown fine to coarse SAND, some silt and gravel, 10YR4/4. SW	S16DOA (115'-120')	0.2	120
125	C-5	120-125		1.5	Brown medium SAND, some fine and coarse sand, 7.5YR4/6. SM	S16DPA (120'-125')	0.9	125
130	C-6	125-130		5	Pale yellow fine SAND, some silt, dry, 5Y7/3. SM	S16DQA (125'-130')	0.7	130
135	C-7	130-135		3.5	Olive brown fine to coarse SAND, little fine sand, moist, 2.5Y4/4. SP	S16DRA G16DAA (130'-135')	2.4	135
140						G16DBA (135'-140')	0.9	140
145	C-8	135-150		18	Light olive brown medium SAND, some fine sand, 2.5Y5/4. SM	G16DCA (140'-145')	0.0	145
150					Olive brown medium to coarse SAND, some gravel, 2.5YR4/4. SP			150

BORING LOG

BORING NO. MW-16

PROJECT NAME: MMR

LOCATION: Camp Edwards, MA

SHEET 5 OF 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160						G16DDA (162'-166')		160
165	C-9	155-175		9	Pale olive medium SAND, some fine sand and gravel, 5Y6/4. SP		0.4	165
170								170
175						G16DEA (172'-176')		175
					Olive fine SAND and SILT, 5Y5/3. SM			
180								180
185	C-10	175-195		15	Olive yellow medium SAND, trace silt and fine sand, 2.5Y 6/6. SP	G16DFA (182'-186')	0.0	185
190								190
					Olive brown medium SAND, some gravel, trace fine sand, 2.5Y 4/4. SW	G16DGA (192'-196')		

BORING LOG

BORING NO. **MW-16**

PROJECT NAME: MMR

LOCATION: Camp Edwards, MA

SHEET 6 OF 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200								200
205	C-11	195-215		14	Olive yellow medium SAND, some fine sand, 5Y 6/6. SM	G16DHA (202'-206')	1.7	205
210								210
215					Olive yellow medium SAND, some gravel, 5Y 6/6. SP	G16DIA (212'-216')		215
220								220
225	C-12	215-235		20	Dark yellowish brown fine to medium SAND, some clay, 10YR 4/4. ML	No Sample	0.0	225
230								230
					Dark greenish gray medium SAND, some clay, 10YR 4/1. SC	No Sample		
					Brown medium SAND, trace silt, 7.5YR5/6. SM	No Sample		

BORING LOG

BORING NO. MW16

PROJECT NAME: MMR LOCATION: Camp Edwards, MA SHEET 7 OF 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
240					Brown fine SAND, trace silt and clay, 10YR 4/3. SC			240
245	C-13	235-255		18	Light olive brown fine to medium SAND, some gravel, 2.5YR 5/6. SP	No Sample	5.0	245
250					Dark grayish brown fine SAND, trace silt, cohesive, 2.5Y 4/2. SM			250
255					Yellowish red medium to coarse SAND, some gravel, 10YR 5/6. SP	G16DJA (252'-256')		255
260					Yellowish brown medium to coarse SAND, some gravel, 5YR 5/8. SP	G16DKA (262'-264')		260
265	C-14	255-275		18	Olive yellow fine SAND, trace clay, cohesive, 2.5Y 6/6. SC	G16DLA (272'-276')		265
270								270

PROJECT NAME: MMR

LOCATION: Camp Edwards, MA

SHEET 8 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
280					Pale olive well sorted, fine SAND, cohesive, 5Y 6/4. SM			280
285	C-15	275-295				NoSample	1.5	285
290					Brownish yellow medium to coarse SAND, some gravel, trace fine sand, 10YR6/6. SP			290
295					Olive fine SAND, some silt and clay, 5Y4/4. SC	G16DMA (292'-296')		295
300					Light yellowish brown SILT, lenses of fine to medium sand, 10Y 6/4. SC			300
305	C-16	295-315				NoSample	4.6	305
310					Light yellowish brown mottled CLAY, trace silt and fine sand, very dense, 10YR6/4. ML			310
						NoSample		

BORING LOG

BORING NO. **MW16**

PROJECT NAME: MMR LOCATION: Camp Edwards, MA SHEET 9 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
320								320
325	C-17	315-335		20	Yellowish brown SILT, some clay, dense, 10Y5/4. ML	No Sample		325
330					Gravel			330
335					Yellowish red fine to medium SAND, some silt, 10Y4/6. SP	G16DNA (332'-336')		335
340								340
345	C-18	335-355		4	Brown medium SAND, trace gravel, poorly graded, 7.5YR 4/6. SP	G16DOA (345'-346')		345
350						G16DPA (352'-356')		350

OGDEN



BORING LOG

BORING NO. **MW16**

PROJECT NAME: MMR LOCATION: Camp Edwards, MA SHEET 10 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
360	C-19	355- 373		20	Yellowish brown fine to coarse SAND, trace silt and gravel, well rounded, well graded, moist, 10YR 5/6. SW	G16DQA (362'-366')	2.8	360
365					Olive brown fine to coarse SAND, trace gravel and cobbles, angular, moist, 2.5Y4/4. SW-SM		0.0	365
370		373- 395			BEDROCK, gray green Granodiorite	No Sample		370
375								375
380								380
385								385
390								390
					End of boring 395 feet			

BORING NO. MW-17

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 10

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

TOTAL DEPTH: 360 feet DATE STARTED: 8-12-97 DATE FINISHED: 8-26-97

REMARKS:

[illegible]

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	C-7	35-45		10	Brown fine to coarse SAND, with gravel, pebbles, boulders, trace silt, subangular to round, slightly moist, well graded, loose, 7.5YR4/2. SW			40
45					Very pale brown very fine to fine SAND, slightly moist, poorly graded, very soft, 10YR7/4. SP		0.0	45
50	C-8	45-55		7	Brown fine to coarse SAND and GRAVEL, some pebbles, trace silt, well graded, subangular to well rounded, loose, 7.5YR4/2. SW			50
55						S17DCA (53')	9.6	55
60	C-9	55-60		5				60
65	C-10	60-65		5	Granite boulder from 59' to 63'			65
					Very fine to fine SAND, trace gravels, poorly graded, soft. SP grading to a light yellowish brown SAND, some silt, slight plasticity and cementation, 10YR6/4.		0.0	65
70	C-11	65-75		5				70

BORING LOG

BORING NO. **MW-17**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	C-12	75-85		8	Light yellow brown fine to medium SAND, trace fine to medium gravel, loose, poor to medium graded, subangular to rounded, moist, 2.5Y6/4. SP		0	80
85							0	85
90	C-13	85-95		10				90
95					Dark yellowish brown SAND, some silt, angular to rounded, slight cementation, non-plastic, soft, 10YR4/4. SM		0	95
100	C-14	95-105						100
105							0	105
110	C-15	105-115		6	Light gray GRAVEL, some silt and sand, well graded, loose, angular to round, 10YR7/2. SW			110
							0	

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120	C-16	115-125		10	Light gray GRAVEL, some silt and sand, well graded, loose, angular to round, 10YR7/2. SW	G17DAA (120'-125')	0.0	120
125					Very moist to wet at 123.5'		0.0	125
130	C-17	125-135		10	Light gray SAND, some silt and gravel, trace pebbles, moderate grading, angular to subrounded, loose, wet, 10YR7/2. SW	G17DBA (130'-135')		130
135								135
140						G17DCA (140'-145')		140
145	C-18	135-155		10	Light yellowish brown SAND, trace gravel, moderate to well sorted, subrounded to rounded, loose, 10YR6/4. SP grading to a fine to medium SAND			145
150						G17DDA (152'-157')		150

BORING LOG

BORING NO. **MW-17**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
160	C-19	155-175		15	Light yellowish brown fine to medium SAND, trace fine to coarse gravel, poorly graded, dense, 10YR6/4. SP	G17DEA (162'-166')	0.0	160
165						G17DFA (172'-175')	0.0	165
170	C-20	175-195			Light yellowish brown fine to medium SAND, moderately dense, 10YR6/4. SP	G17DGA (183'-186')		170
175								175
180								180
185					Pale olive SAND, some silt, trace gravel, subangular to rounded, loose, 5Y6/3. SM	G17DHA (193'-196')		185
190					Light yellowish brown fine to medium SAND, medium dense, 10YR6/4. SP			190

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200	C-21	195-215		18	Light yellowish brown fine to medium SAND, trace silt and gravel, poorly graded, medium dense, 10YR6/4. SP	G17DIA (202'-206')	0.0	200
205								205
210							0.0	210
215	C-22	215-235		18	Light yellowish brown fine to medium SAND, poorly graded, medium dense, 10YR6/4. SP	G17DJA (213'-216')		215
220								220
225								225
230								230
						G17DKA (222'-227')		
						G17DLA (232'-236')		

BORING LOG

BORING NO. **MW-17**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Greenish gray fine SAND, some silt, non-plastic, medium to very dense, rapid dilatancy, Gley 1 5/1, SM		7.0	
240								240
							5.0	
245	C-23	235-255		20		G17DMA (242'-246')		245
							12.0	
250					Light yellowish brown fine to medium SAND, trace silt and gravel, poorly graded, medium dense, 2.5Y6/4. SP			250
255						G17DNA (252'-256')		255
							4.5	
260								260
265	C-24	255-275		20	Light yellowish brown (2.5Y6/4) and greenish gray (Gley 1 5/1) fine to medium SAND, trace silt, poorly graded, medium dense. SP	G17DOA (262'-266')		265
							5.8	
270								270
						G17DPA (272'-276')		

BORING LOG

BORING NO. MW-17

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
280					Orange brown fine SAND, trace silt, poorly graded, dense. SP		0.0	280
					Yellowish brown SAND, with silt and fine gravel, subangular to rounded, 10YR5/8. SW-SM			
285	C-25	275-295		20	Orange brown fine SAND, trace silt, poorly graded, dense. SP	G17DQA (282'-286')		285
					Yellowish brown SAND, with silt and fine gravel, subangular to rounded. SW-SM		0.0	
290					Olive SAND, some silt, poorly graded, rapid dilatancy, non-plastic, 5Y5/4. SM			290
						G17DRA (292'-300')		
295					Fine to coarse SAND, some silt, trace gravel, dense, subangular to rounded.		0.0	
300	C-26	295-305		10	Olive SILT, some sand trace fine to coarse gravel, subangular to rounded, very dry, cohesive, 5Y5/4.			300
					Olive gray fine to coarse SAND and SILT, some clay, trace fine to coarse gravel, subangular to rounded. 5Y5/2	No Sample		
305					Fine to coarse SAND and SILT, some clay. SM			305
					Medium gray CLAY, trace fine to medium sand, dry to moist. SC	No Sample	0.0	
310	C-27	305-325		20				310

BORING LOG

BORING NO. **MW-17**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
	C-27	305-335		20	Medium gray CLAY, trace fine to medium sand, moderate plasticity, gley 1 4/1. SC		0.0	
320					Olive gray SAND, some silt, with clay, moist, 5Y5/2. SM	G17DSA (322'-326')	0.0	320
325								325
330							0.0	330
335					Gravel, some sand, subangular to rounded, well graded, slight plasticity. GC	G17DTA (332'-336')	0.0	335
340	C-28	335-345		12		No Sample		340
345					Red GRANITE			345
350								350

BORING LOG

BORING NO. **MW-17**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 10 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
					Red GRANITE			
360					End of boring 360 feet			360
365								365
370								370
375								375
380								380
385								385
390								390

BORING LOG

BORING NO. **MW-18**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 8
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic
 TOTAL DEPTH: 300 feet DATE STARTED: 8-28-97 DATE FINISHED: 9-8-97
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (depth)	FID	Depth (feet)
0	C-1	0-5		5	Dark yellowish brown organic SILT, 10YR4/6, (B-Horizon). OL	S18DAA (0'-0.5')	0.0	0
5					Yellowish brown SILT, trace pebbles, 10YR5/6. OL	S18DBA (0.5'-2')	0.0	5
					Yellow brown fine to coarse SAND, 10YR5/6. SP-SM			
	C-2	5-15		10	Pale yellowfine to medium SAND, poorly graded, loose, moist, 2.5Y7/4. SP			
10					Yellowish brown SAND and GRAVEL, loose, moist, subrounded, 10YR5/6. SW		0.0	10
					Yellowish brown SILT, some gravel, cohesive, friable, moist, subrounded, 10YR5/6. GM			
15	C-3	15-25			Pale yellow SAND and GRAVEL, well graded, subrounded, 2.5Y7/4. SW			15
20					Brown and gray, mottled SAND and GRAVEL, well graded, loose, moist, subangular to subrounded. SW		0.0	20
					Light brownish gray SAND and GRAVEL, some silt, trace pebbles 4", angular to subrounded, dry, 2.5Y6/2. GM			
25	C-4	25-35		5			0.0	25
30					yellowish brown to gray SAND and GRAVEL, trace pebbles < 2", subrounded.			30

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	C-5	35-45		9	Light brownish gray SAND and GRAVEL, trace pebbles <2", well graded, moist, loose, 2.5Y6/2. SW		0.0	40
45						G18DAA (39-44)		45
50	C-6	45-55		9				50
55					Saturated at 54 feet.		0.0	55
60	C-7	55-65		10	Light brownish gray to mottled gray SAND and GRAVEL, trace pebbles <3", well graded, loose, 2.5YR6/2. SW grading to to SAND and GRAVEL, some silt.	G18DCA (55-60)		60
65								65
70	C-8	65-75		2			0.0	70
						G18DDA (72-76)		

BORING LOG

BORING NO. **MW-18**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80							0.0	80
85	C-9	75-95		20	Light brown medium to coarse SAND, some fine to medium gravel max diameter 3", subangular to rounded, 10YR6/3. SP	G18DEA (82'-86')	0.0	85
90								90
95						G18DFA (92'-96')		95
100	C-10	95-105		20			0.0	100
105					Light yellowish brown medium to coarse SAND, some fine to medium gravel maximum diameter 2", subangular to rounded, 2.5Y6/3. SP	G18DCA (102'-106')		105
110	C-13	105-115					0.0	110
						G18DHA (112'-116')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120					light yellowish brown medium to coarse SAND, trace fine gravel, subrounded, 2.5Y6/3. SP		0.0	120
125	C-11	115-135		12	Brownish yellow medium to coarse SAND, trace fine gravel, subrounded, 10YR6/6. SP	G18DIA (122'-126')	0.0	125
130					light yellowish brown medium SAND, trace fine gravel, subrounded, 2.5Y6/3. SP			130
135					light yellowish brown medium to coarse SAND, trace fine gravel, subrounded, 2.5Y6/3. SP	G18DJA (132'-136')		135
140					Light pale brown medium to coarse SAND and very fine GRAVEL, subrounded, 10YR6/3. SP		0.0	140
145	C-12	135-155		15	Pale brown fine to medium SAND, some very fine gravels, rounded to subrounded, 10YR6/3. SM	G18DKA (142'-146')	0.0	145
150						G18DLA (152'-156')		150

BORING LOG

BORING NO. **MW-18**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160	C-13	155-175		15	Pale brown fine to medium SAND, very poorly graded, 10YR6/3. SP	G18DMA (162'-166')	0.4	160
165					Very pale brown medium to coarse SAND and GRAVEL, trace pebbles, subangular to subrounded, 10YR7/3. SP	G18DNA (172'-176')	0.0	165
170					Pale yellow fine SAND, some medium sand, trace pebbles, subangular to subrounded, poorly to moderate sorted, 2.5Y7/4. SP		0.0	170
175	C-14	175-195		17	Pale yellow, fine SAND, trace pebbles and gravel, subrounded to rounded, poorly to moderately graded, 5Y7/3. SP	G18DOA (182'-186')		175
180							0.0	180
185					Pale olive fine to very fine SAND, trace silt, dense, 5Y6/3. SM	G18DPA (192'-196')	0.1	185
190								190

BORING LOG

BORING NO. MW-11

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200	C-15	195-215		20	Very fine SAND, some silt, poorly to moderately sorted, 5Y5/3. SM	G18DQA (202'-206')	0.0	200
205					Very fine SAND and SILT, trace clay seams, medium stiff, 5Y5/2. SM		0.0	205
210					Medium SAND and GRAVEL, some clay throughout, loose, well sorted, 7.5YR7/8. GM			210
215					Fine to medium SAND, trace pebles, subangular to rounded, well sorted, 7.5YR6/3. SW			215
220	C-16	215-235		16		G18DRA (212'-216')	0.0	220
225					Light yellowish brown fine to medium SAND, trace pebles and gravel, subangular to subrounded, well sorted, 2.5Y6/4. SW	G18DSA (222'-226')		225
230							0.0	230
					Yellowish brown fine to medium SAND, trace pebles and gravel, subangular to subrounded, well sorted, 10YR5/6. SW	G18DTA (232'-236')		

BORING LOG

BORING NO. **MW-18**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
240							0.0	240
245	C-17	235-255		20	light brown fine to medium SAND, well sorted, 2.5Y6/2. SW	G18DUA (242'-246')		245
250							0.0	250
255						G18DVA (252'-256')		255
260					Light olive brown fine to coarse SAND, some gravel, well sorted, subrounded to rounded, 2.5YR5/6. SW		0.0	260
265	C-18	255-275		20	Light yellowish brown fine SAND, some medium sand, trace pebbles, rounded to subrounded, 2.5YR6/4. SW	G18DWA (262'-266')		265
270					Light yellowish brown fine to medium SAND, some gravel, trace pebbles, rounded to subrounded, 2.5YR6/4. SW	G18DXA (272'-276')	0.0	270

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Gray medium SAND, trace silt, moist, loose. SP grades to a medium to coarse SAND and GRAVEL, some silt, 5YR5/4. SP-SM		0.0	
280	C-19	275-285			Fine SAND and SILT. SP-SM		0.0	280
					Fine to coarse SAND and SILT, some clay and gravel, well sorted, 5YR5/3. SP			
285					CLAY, very hard, dry, (weathered bedrock). CL		0.0	285
290								290
	C-18	285-300			BEDROCK, gray metamorphic, horizontal schistosity, occasional voids, possible recrystallization.			
295								295
300					End of boring 300 feet			300
305								305
310								310

BORING LOG

BORING NO. **MW-19**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 8
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 TOTAL DEPTH: 309 feet DATE STARTED: 8-21-97 DATE FINISHED: 2-13-98
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (depth)	FID	Depth (feet)
	HA-1 HA-2	0-0.5 1.5-2			Dark brown organic fine to medium SAND, little silt, trace clay, pieces of roots and rock, 7.5YR2.5/3. SP Dark brown SILT, little fine to medium sand, trace clay, with pieces of wood and leaves.	S19DAA (0'-0.5') S19DBA (0.5'-2')	0.0	
5								5
10	S-1	10-12	12-19-19-15	12	Very pale brown fine to coarse SAND, trace fine to medium gravel and silt, dry, medium dense, 10YR8/4. SW	S19DCA (10'-14')	0.0	10
15	S-2	12-14	13-16-16-18	12				15
20	S-3	20-22	13-17-24-24	18	Pale brown fine to coarse SAND, little fine to medium gravel, trace silt, dense, dry, 10YR8/4. SP	S19DDA (20'-22')	0.0	20
25								25
30	S-4	30-32	20-30-35-40	15	Light yellowish brown SAND little fine to coarse gravel, trace silt, very dense, moist, 10YR6/4. SP	S19DEA (30'-32')	0.0	30

BORING LOG

BORING NO. MW-1

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	100/5"	0	(Water Table at 41 feet)			40
	S-6	42-44	15-19-32-39	1 2	Light brownish brown fine to coarse SAND, trace fine to medium gravel and silt, dense, wet, 10YR6/4. SP	S19DFA (42'-44')	0.0	45
					Pale brown medium to coarse SAND, trace fine gravel, subangular, poorly graded, loose, wet, 10YR6/3. SP			
					Pale brown coarse SAND, some fine to coarse gravel, subrounded, poorly graded, loose, wet, 10YR6/3. SP	G19DAA (52')		50
					Grayish brown coarse SAND, trace fine to coarse gravel, subrounded, poorly graded, loose, wet, 10YR5/2. SP			60
					Light yellowish brown medium to coarse SAND, trace fine gravel, subrounded, poorly sorted, loose, wet, 10YR6/4. SP	G19DBA (64.5')		65
						G19DCA (72')		70

BORING LOG

BORING NO. **MW-19**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80					Yellowish brown medium SAND, subrounded, loose, poorly graded, wet, 10YR5/4. SP			80
85						G19DDA (84')		85
90					Yellowish brown medium SAND, trace coarse sand, subrounded, loose, poorly graded, wet, 10YR5/4. SP			90
95						G19DEA (92')		95
100					Yellowish brown medium SAND, trace coarse gravel and silt, subrounded, poorly graded, loose, wet, 10Y5/4. SP			100
105						G19DFA (104')		105
110					Yellowish brown medium SAND, some coarse gravel, trace silt, subrounded, poorly graded, loose, wet, 10Y5/4. SW			110
						G19DGA (112')		

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120								120
125						G19DHA (124')		125
130					Yellowish brown medium to coarse SAND, trace fine to coarse gravel, poorly graded subrounded, loose, wet, 10YR5/4. SP	G19DIA (132')		130
135								135
140								140
145						G19DJA (144')		145
150					Yellowish brown medium SAND, with fine to coarse gravel, subrounded, loose, wet, poorly graded, 10YR6/3. SW	G19DKA (152')		150

BORING LOG

BORING NO. **MW-19**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160					Yellowish brown fine to medium SAND, trace silt, poorly graded, angular, loose, wet, 10YR5/4. SP			160
165						G19DLA (164')		165
170					Yellowish brown fine to medium SAND, trace silt, subangular, dense, wet, 10YR5/4. SP			170
175						G19DMA (172')		175
180					Yellowish brown fine SAND, trace silt, poorly graded, dense, wet, 2.5Y7/4. SP			180
185						G19DNA (184')		185
190					Yellowish brown fine SAND, some silt, poorly graded, dense, wet, 5Y7/3. SP- SM	G19DOA (192')		190

BORING LOG

BORING NO. **MW-1**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200					Yellowish brown fine to medium SAND, trace silt, subrounded, poorly graded, dense, wet, 10YR5/4. SP			200
205						G19DPA (204')		205
210					Light yellowish brown fine SAND, some silt, dense, poorly graded, wet, 10YR6/4. SP-SM			210
215						G19DQA (212')		215
220					Light olive brown fine SAND, some silt, dense, poorly graded, wet, 2.5YR5/4. SP-SM			220
225						G19DRA (224')		225
230								230
					Light yellowish brown medium SAND, subrounded, poorly graded, loose, wet, 2.5Y6/2. SP	G19DSA (232')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
240					Light yellowish brown medium to coarse SAND, subrounded, poorly graded, loose, 2.5Y6/4. SP			240
245						G19DTA (244')		245
250					Light olive brown fine to medium SAND, poorly graded, loose, wet, subrounded, 2.5YR5/3. SP			250
255						G19DUA (252')		255
260					Light olive brown medium to coarse SAND, some gravel, poorly graded, subrounded, loose, 2.5Y5/6. SP			260
265						G19DVA (264')		265
270					Light olive brown medium to coarse SAND, trace fine to coarse gravel, 2.5Y5/3. SP			270
						G19DWA (272')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 8

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
								0.0
								0.0
280					Light olive brown fine to medium SAND, trace fine gravel, poorly graded, subangular to subrounded, 2.5Y5/3. SP			280
								0.0
285						G19DXA (284')	0.0	285
					Light olive brown fine SAND, some silt, trace gravel, poorly graded, 2.5Y5/3. SP			
290								290
						No Sample (292')		
					Coarse SAND and fine GRAVEL, 2.5Y5/3. SP-GP			
					Fine to coarse GRAVEL, with cs. sand, 2.5Y3/6. GP			
295								295
					Coarse GRAVEL, some coarse sand, poorly sorted.			
300								300
					Dark greenish gray fine to coarse SAND, some gravel, silt, and clay, rock fragments, gley 1 3/10. GM (Till)			
305								305
					BEDROCK, granite.	No Sample (306')		
310					End of boring 309 feet			310

BORING LOG

BORING NO. **MW-20**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 3

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

TOTAL DEPTH: 105 feet DATE STARTED: 9-25-97 DATE FINISHED: 9-25-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	C-1	0-3		3	Olive brown SAND and SILT, well graded, dense, roots, 2.5Y4/4. SM-SW		0.0	
5	C-2	3-5		1.5	Light olive brown fine to medium SAND and SILT, some gravel, well graded, subangular to subrounded, 2.5 Y5/5. SW		0.0	5
	C-3	5-10		5	Light olive brown, GRAVEL and SAND, some silt, subangular to rounded, 2.5Y5/6. GW		0.0	
10					Fine to medium SAND and fine to coarse GRAVEL, some silt, well graded. SW			10
	C-4	10-15		5	Dark yellowish brown fine to medium SAND, some fine to coarse gravel, well sorted, 10YR4/6. SW		0.0	
15								15
	C-5	15-20		5	Light olive brown fine to medium SAND, trace fine gravel, poorly sorted, 2.5Y5/6		0.0	
20								20
	C-6	20-25		5	Olive fine to coarse SAND, some fine to medium gravel, trace silt, well sorted, 5Y5/4. SW-SP		0.0	
25								25
	C-7	25-30		5	Brownish yellow fine to coarse SAND, some fine to medium gravel, trace silt, well sorted, 5Y5/4. SW-SP		0.0	
30								30
	C-8	30-35		5	Strong brown fine to medium SAND, some fine to medium gravel, trace silt, subangular to subrounded, 7.5YR4/6		0.0	

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	C-9	35-45		10	Dark yellowish brown fine to medium SAND, trace fine gravel, well sorted, subangular, 10YR4/4. SW		0.0	40
45					Dark yellowish brown fine SAND and SILT, trace gravel, well sorted, 10YR4/4. SW		0.0	45
50	C-10	45-55		7	Red fine to medium SAND and SILT, some gravel, well sorted, subangular to angular, 2.5YR4/8. SW-GM		0.0	50
55							0.0	55
60	C-11	55-60			Olive fine to medium SAND and SILT, trace gravel, well sorted, subangular to angular, 5Y4/4. SW	S20DFA (58')	1.3	60
65	C-12	60-70			Olive fine to medium SAND and SILT, some fine gravel, loose, subrounded to rounded, 2.5Y5/6. SW		0.0	65
70							0.0	70
	C-13	70-80			Olive SAND, some silt and fine gravel, 2.5Y5/6. SW		0.0	

BORING LOG

BORING NO. **MW-20**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80					Olive SAND, some silt and fine gravel, 2.5Y5/6. SW		0	80
85	C-14	80-90		6	Strong brown SAND, some silt and fine gravel, 7.5Y4/6. SW		0	85
90							0	90
95	C-15	90-100		6	Light red fine to coarse SAND, some fine gravel, trace silt, poorly sorted, 10Y6/6. SP-SW		0	95
100							0	100
105	C-16	100-105		3	Olive fine to coarse SAND, some gravel, poorly sorted, moist, 5Y5/6. GP		0	105
110					End of boring 105 feet			110

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 10
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic
 TOTAL DEPTH: 380 feet DATE STARTED: 9-10-97 DATE FINISHED: 9-22-97
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (depth)	FID	Depth (feet)
					Medium brown SAND, with silt, well graded, no organics. SP-SM		0.0	
5	C-1	0-5		5	Light yellowish brown fine to coarse SAND and GRAVEL, rounded to well rounded, 2.5 Y6/4. SW		0.0	
					Dark and light brown mottled SAND, some gravel			5
	C-2	5-10		5			0.0	
10					Light yellowish brown SAND, with gravel, rounded, well graded, 2.5Y6/4. SW			10
	C-3	10-15		5			0.0	
15								15
	C-4	15-18			Granite Boulder		0.0	
20								20
	C-5	18-21						
					Light yellowish brown SAND and GRAVEL, subangular to rounded, well graded, 2.5Y6/4. SW		0.0	
25					Coarse SAND, with gravel, moist, poorly graded. SP			25
					Light brown fine SAND and SILT, with gravel. SW			
					Yellowish brown SAND, with gravel, well graded, well rounded, 10YR5/6. SW		0.0	
30	C-5	25-35		10				30
					Yellowish brown SAND and GRAVEL, well graded, grading to coarse sand, with gravel, moist, 2.5Y6/4. SW		0.0	

BORING LOG

BORING NO. **MW-21**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
		35-37	(10)		Fine to medium SAND and fine to medium GRAVEL, well sorted, 2.5Y5/4. SW		0.0	
	C-8	35-40	(11) 37-38	5	Yellowish brown fine SAND and SILT, poorly graded, moist 2.5Y6/4. SW		0.0	
		38-40	(12)		SAND and SILT, with gravel, well graded, moist, iron staining. SW-SM		0.0	
40								40
	C-9	40-45	(13)	5	Mottled light brown to dark brown very coarse SAND, with silt and gravel, well graded, very loose, iron staining. SP-SM		0.0	
45								45
							0.0	
50	C-10	45-55	(14)	10	Mottled light brown to gray brown fine to medium SAND, with silt and fine to coarse gravel, poorly graded, subrounded to rounded, moist. SP-SM		0.0	50
55							0.0	55
							0.0	
60	C-11	55-65	(15)	10	Mottled light yellowish gray fine to medium SAND, with silt and fine to coarse gravel, poorly graded, moist, 2.5Y6/4. SP-SM		0.0	60
		55-70						
65							0.0	65
	C-12	65-70		5			0.0	
70							0.0	70
	C-13	70-80	(16)	10	Light yellowish brown, fine SAND, with fine gravel and silt, poorly graded, moist, 2.5Y6/4. SP-SM		0.0	
		70-75						

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Mottled yellowish brown to gray brown fine to medium SAND and SILT, with fine to coarse gravel, poorly graded. SP-SM		0.0	
80								80
	C-14	80-85		5	Light yellowish brown and yellowish brown fine to medium SAND, with silt and gravel, poorly graded, moist, 10YR5/6. SP-SM		0.0	
85							0.0	85
	C-15	85-95		2	Dark grayish brown SAND and fine to medium GRAVEL, with silt, subrounded to well rounded, dry, 2.5Y4/2. SW-SM grades to olive brown fine SAND and fine to medium GRAVEL, moist, well graded, 2.5Y4/3.			90
90								90
	C-16	95-100		5	Yellowish brown SAND and fine to medium GRAVEL, trace silt, subangular to subrounded, dry, 10YR5/4. SW-SM			95
95								95
	C-17	100-105		5	Light yellowish brown fine to medium SAND, with fine gravel, poorly graded, 2.5Y6/4. SP			100
100								100
					Grayish brown fine to coarse SAND and fine to coarse GRAVEL, with silt, well graded, subrounded, 2.5Y3/2. SW-SM			105
105								105
					Fine SAND and medium GRAVEL, dry, 2.5Y6/4. SP			
	C-18	105-115		10	Gray mottled fine SAND and fine to medium GRAVEL, 2.5Y6/4. SP			110
110								110
					Yellowish brown medium to coarse SAND and GRAVEL, moist, rounded, 10YR5/4. SP			

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Light gray SAND, with silt and fine to medium gravel, well graded, 2.5Y6/2. SW-SM		0.0	
120	C-19	115-125		10	Mottled yellowish brown and dark gray SAND, some silt and fine to coarse gravel, well graded, moist, 2.5Y6/2. SW-SM		0.0	120
125					Yellowish brown fine to coarse SAND and fine to coarse GRAVEL well graded, moist, angular to subrounded, 10YR5/4. SW		0.0	125
	C-20	125-130		5	Light brownish gray SAND, with silt and fine to medium gravel, Moist, well rounded, 10YR6/2. SW-SM		0.0	
130					Pale yellow SAND and fine GRAVEL, well graded, rounded, 2.5Y7/3		0.0	130
	C-21	130-135		5	Olive yellow with gray mottled SAND, with silt and fine gravel, dry, well graded, 2.5Y6/4. SW-SM		0.0	
135					Light olive brown SAND and fine GRAVEL, some silt, rounded, 5Y6/2. SW-SM			135
	C-22	135-140		5	Light olive gray SILT, with fine gravel and coarse sand, dry, 5Y6/2. ML			
140					Light yellowish brown SAND and GRAVEL, well graded, subangular, 2.5Y6/4. SW		0.0	140
	C-23	140-145			SAND and GRAVEL, some silt, well graded, subangular to subrounded, moist.			
145					Light olive gray SILT, with gravel, some sand, subrounded, dy, 5Y6/2. ML		0.0	145
					Light yellowish brown fine to medium SAND and GRAVEL, subangular, well graded, dry, 2.5Y6/4. SW		0.0	
					Light yellowish brown SAND and GRAVEL, well graded, dry, angular to subangular, 2.5Y6/4. SW		0.0	
					Light brownish gray SILT and GRAVEL, some sand, well graded, angular to subangular, 2.5Y6/2. ML		0.0	
150	C-24	145-155		10	Light yellowish brown SAND and fine GRAVEL, well graded, dry, subrounded, loose, 2.5Y6/4. SW		0.0	150
					Pale yellow SAND and GRAVEL, some silt, well graded, dry, 2.5Y7/4. SW-SM			

PROJECT NAME: MMR Impact Area

LOCATION: Camp Edwards, MA

SHEET 5 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Olive gray SAND, with gravel, some silt, well graded, subangular, dry, 5Y4/3. SW-SM		0.0	
					Gray SILT, with gravel, some sand, subangular, dry 5Y6/1. SM-ML			
	C-25	155-160		5	SAND and GRAVEL, well graded, subangular, moist, 2.5Y5/2. SW			
160					Pale yellow SILT and GRAVEL, some sand, graded, subangular, dry, 5Y7/4. ML			160
					Olive SILT and GRAVEL, some sand, subangular, 5Y5/3. ML		0.0	
165	C-26	160-170		10	Yellowish brown medium SAND, with medium gravel, poorly graded, moist, 2.5Y6/4. SP		0.0	165
					Pale olive medium SAND, with medium gravel, some silt, poorly graded, dry, subangular, 2.5Y6/4. SP-SM			
170					Granite boulder at 170'			170
					Water table at 172'			
	C-27	170-175			Light yellowish brown medium to coarse SAND, with medium gravel, poorly sorted, angular to subrounded, 2.5Y6/4. SP	G21DAA (172'-176')		
175					Wet at 173'			175
					Olive brown SAND and SILT, with fine to medium gravel, well graded, subangular to angular, 2.5Y4/3. SW-SM		0.0	
					Olive yellow SAND, with fine to medium gravel, well graded, subangular, 2.5Y6/6. SW		0.0	
180							0.0	180
							0.0	
185	C-28	175-195		9	Light yellowish brown coarse SAND, with fine to medium gravel, poorly graded, subangular, loose, 2.5Y6/4. SP	G21DBA (182'-186')		185
190								
						G21DCA (192'-196')		

BORING LOG

BORING NO. **MW-21**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
200							0.0	200
205	C-29	195-215		18	Light yellowish brown SAND, with fine to medium gravel, poorly graded, wet, iron stained, loose, 10YR 6/4. SP	G21DDA (202'-206')	0.0	205
210							0.0	210
215						G21DEA (212'-216')	0.0	215
220					Light yellowish brown SAND, with fine to medium gravel, some silt, poorly graded, loose, wet, 2.5Y 6/3. SP-SM			220
225	C-30	215-235		18		G21DFA (221'-225')		225
230					Light yellowish brown coarse SAND, some fine to medium gravel, poorly graded, subangular, moist to wet, 2.5Y 6/4. SP		0.0	230
						No Sample		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
240	C-31	235-255		15	Light yellowish brown medium SAND and GRAVEL, dense, moist, subrounded, 2.5Y6/4, SP	G21DHA (242'-246')	0.0	240
245							0.0	245
250					Light yellowish brown SAND, some silt, moist to wet, 2.5Y6/4. SP-SM			250
255								255
260	C-32	255-275			Light yellowish brown SILT, some sand, trace clay, dense, moist, 5Y6/3. ML	G21DIA (252'-255')	0.0	260
265								265
270					Light yellowish brown fine SAND, some silt, dense, moist, 2.5Y 6/4. SP		0.0	270
					Light yellowish brown fineto coarse SAND, with silt and medium gravel, well graded, loose, well rounded, moist, 2.5Y 6/3. SW-SM	G21DJA (264'-270')		
					Dark greenish brown SILT, with fine to coarse sand, some clay, moist, very hard, 2.5Y4/2. ML			
						G21DKA (272'-277')		

BORING LOG

BORING NO. **MW-21**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
					Dark greenish brown SILT, with fine to coarse sand, some clay, moist, very hard, 2.5Y4/2. ML		0.0	
280	C-33	275-289		14	Dark gray CLAY, trace sand, stiff, moderate plasticity, moist to dry, 5Y4/1. CL/MH	No Sample	0.0	280
285								285
290	C-34	275-289		6	Yellowish brown to light olive brown fine to medium SAND, poorly graded, moist, loose, 10YR5/8 to 2.5Y5/6. SP	G21DMA (292'-296')		290
295					Yellowish brown fine SAND, trace silt, poorly graded, moist, medium dense, 2.5Y6/3. SP			295
300								300
305	C-35	295-315		18	Olive SAND, trace silt, well graded, loose, wet, massive, 5Y5/3. SW	G21DNA (302'-306')		305
310					Dark gray CLAY, some sand, trace silt, high plasticity, very stiff, 5Y4/1. CL-MH	No Sample	0.0	310

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
320	C-36	315-325		10	Dark gray CLAY, some sand, trace silt, high plasticity, very stiff, 5Y4/1. CL-MH	No Sample	0.0	320
325							0.0	325
330					Yellowish brown to olive very fine to medium SAND, poorly graded, loose, 10YR5/6 to 5Y5/3. SP		0.0	330
335	C-37	325-345			Dark gray SAND, trace silt and fine to medium gravel, angular to subangular, very dense, cohesive, 5Y4/1. SP-SM	G21DQA (335'-340')	0.0	335
340							0.0	340
345						No Sample	0.0	345
350					Dark gray fine to medium SAND, some silt, wet, very hard, 5Y4/1. SP-SM		0.0	350
							0.0	
					Dark gray SAND, some silt, trace gravel, moist and dry zones, 5Y4/1. SP-SM		0.0	
	C-38	345-365				No Sample		

BORING LOG

BORING NO. **MW-21**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 10 OF: 10

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
360	C-38	345-365			Dark gray SAND, some silt, trace gravel, moist and dry zones. SP-SM	No water	0.0	360
365								365
370								370
375	C-39	365-380			Bedrock, quartz diorite			375
380					End of boring 380 feet			380
385								385
390								390

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 5

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

TOTAL DEPTH: 185 feet DATE STARTED: 9-23-97 DATE FINISHED: 9-24-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (depth)	FID	Depth (feet)
					Fine SAND, with silt, organic material. SM		0.0	
5	C-1	0-5		5	Yellowish brown fine to medium SAND, with fine to coarse gravel, poorly graded, 10YR5/6. SP		0.0	5
10	C-2	5-10		5			0.0	10
15	C-3	10-15		5	Light yellowish brown fine to medium SAND, some fine to medium gravel, subangular to subrounded, moist, loose, 2.5Y6/4. SP		0.0	15
20	C-4	15-25		10			0.0	20
25							0.0	25
30	C-5	25-35		10	brownish yellow fine to medium SAND, some fine to medium gravel, subangular to subrounded, moist, loose 10YR6/8. SP		0.0	30

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 5

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					SAND and GRAVEL, some silt, dry. SP-SM		0.0	
	C-6	35-41		6	Yellowish brown fine to medium SAND, trace silt and fine gravel, moist, 2.5Y6/4. SP		0.0	
40							0.0	40
	C-7	41-45		4	Fine to medium SAND, trace fine gravel and silt, angular. SP-SM		0.0	
							0.0	
45					Olive brown fine to coarse SAND, with gravel, moist, subrounded, poorly graded, 2.5Y4/3. SP		0.0	45
50	C-8	45-55		10	Light yellowish brown fine to medium SAND, some fine to medium gravel, poorly graded, subrounded, moist, loose, 2.5Y6/4. SW		0.0	50
55					Olive brown fine to coarse SAND, with fine to medium gravel and silt, moist to dry, subangular to angular, 2.5Y4/4. SP-SM		0.0	55
	C-9	55-62		7	Light yellowish brown fine to coarse SAND, with fine gravel, poorly graded, moist, subrounded, 2.5Y6/4. SP		0.0	
60					Olive brown fine to medium SAND with fine gravel and silt, subangular to subrounded, 2.5Y4/4. SP-SM		0.0	60
65	C-10	62-68		6	Light yellowish brown medium SAND, with fine to coarse gravel, moist, subrounded to rounded, poorly graded, loose, 2.5Y6/4. SP		0.0	65
					Light olive brown fine to medium SAND, with silt and fine to coarse gravel, poorly graded, subrounded, moist, loose, 2.5Y5/4. SP-SM		0.0	
70								
	C-11	68-75		7	Light yellowish brown fine to medium SAND, with fine to coarse gravel, moist, loose, 2.5Y6/4. SP		0.0	70
					Light olive brown fine to coarse SAND, with silt and fine to coarse gravel, moist, loose, subrounded, 2.5Y5/4. SW-SM		0.0	

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 5

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	C-12	75-85		10	Light olive brown fine to coarse SAND, with silt and fine to medium gravel, moist, loose, subrounded, well graded, 2.5Y6/4. SW-SM		0	80
85					Olive brown fine to medium SAND, with silt and fine to medium gravel, subangular, dry to moist, 2.5Y4/4. SP-SM		0	85
90	C-13	85-95		10	Light yellowish brown fine to medium SAND, with fine to medium gravel, subrounded to rounded, dry, poorly graded, dense, 2.5Y6/4. SP		0	90
95					Brown SAND and fine to medium GRAVEL, some silt, angular to subangular, dry, dense, 10YR4/3. SP-SM			95
100	C-14	95-105		10	Light yellowish brown fine to coarse SAND, with fine to coarse gravel, trace silt, well graded, dry, angular to subangular, 2.5Y6/4. SW	S22DJA (103')	5	100
105							15	105
110	C-15	105-115		10	Light olive brown SAND and SILT, with gravel, well graded, dry, subangular to subrounded, 2.5Y5/3. SW-SM		0	110

BORING LOG

BORING NO. **MW-22**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 5

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Light olive brown SAND and SILT, with gravel, well graded, dry, subangular to subrounded, 2.5Y5/3. SW-SM		0.0	
120	C-16	115-125		10	Light yellowish brown SAND and fine GRAVEL, trace pebbles, well graded, dry, well rounded, 2.5Y6/4. SW		0.0	120
125					Olive brown SAND, with silt and fine to medium gravel, subangular to angular, dry, 2.5Y4/4. SP-SM		0.0	125
	C-17	125-130		5	Light yellowish brown SAND, with fine gravel, subangular, dry, well graded, 2.5Y6/4		0.0	
130					Light olive brown SAND, with silt and fine to medium gravel, well graded, dry, 2.5Y5/4. SW-SM		0.0	130
135							0.0	135
	C-18	130-145		14	Light yellowish brown SAND, with fine gravel, well rounded to subrounded, dry, well graded, 2.5Y6/4. SW		0.0	140
140							0.0	145
145					Light yellowish brown SAND, with fine gravel, some silt, well graded, dry, 2.5Y6/3. SW		0.0	
	C-19	145-155		10	Light yellowish brown SAND and fine to coarse GRAVEL, dry, well graded, 2.5Y6/4. SW		0.0	150

BORING LOG

BORING NO. **MW-27**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 5

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
					Olive brown fine to medium SAND, with pebbles, moist, subangular to subrounded, 2.5Y4/4. SP		0.0	
					Light yellowish brown SAND with fine to medium gravel, some silt, dry, well rounded, 2.5Y6/4. SP-SM		0.0	
160	C-20	155-165		10			0.0	160
165					Light yellowish brown SAND with fine to medium gravel, subangular to subrounded, 2.5Y6/4. SW			165
	C-21	165-170		5				
170					Yellowish brown SAND, with fine gravel, some silt, poorly graded, subrounded, moist, 10YR5/4. SP-SM		0.0	170
175							0.0	175
	C-20	170-185		10	Light yellowish SAND, with gravel, well graded, subrounded, moist, loose, 2.5Y6/4. SW			180
180								
185					End of boring 185 feet		0.0	185
190								190

G10B
(193'-197')

BORING LOG

BORING NO. **MW-23**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 9
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic
 TOTAL DEPTH: 326 feet DATE STARTED: 7-21-97 DATE FINISHED: 7-29-97
 REMARKS: New FID @ 45'- 55'

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
5	C-1	0-5			Yellow-orange loose medium SAND, some gravel, max diameter 2", trace silt, small gravel. 6" lens of light brown fine sand at 3.5' to 4'. SP		0.0	5
10	C-2	5-10					0.0	10
15	C-3	10-15					0.0	15
20	C-4	15-25			Yellow-orange loose fine to medium SAND, trace gravel, max diameter 1"-2", trace silt, silt cap on gravel pebbles (angular to subrounded). SP		0.1	20
25								25
30	C-5	25-35					0.1	30

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	C-6	35-45			Light brownish gray fine to medium SAND, some gravel. SP	S23DFA (35-45)	10	40
45								45
50	C-7	45-55			Light brownish gray fine to medium Sand, some fine to medium gravel. Sand is well sorted. SP		0	50
55								55
60	C-8	55-65			Light brownish gray fine to medium SAND, some fine to medium gravel. Sand is well sorted. SP		0	60
65								65
70	C-8	65-75			Light brownish gray fine to medium SAND, some fine to medium gravel. Sand is well sorted. Color change to brown/gray from 68'-69' and more fines. SP	S23DIA (65-75)	80.8	70

BORING LOG

BORING NO. **MW-23**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	C-10	75-85			Fine to medium SAND, some coarse Sand and gravel (75'-77') SP Light brown-gray dense fine SAND, cohesive (77'-78'). 8" cobble at 79' SP		0	80
85					Very light brown-tan well sorted medium SAND, some coarse sand (79'- 81') SW Light brown sorted and loose medium to coarse SAND, some some gravel max diameter 3" (79'-81') SW			85
90	C-11	85-95			Light browish gray fine to medium Sand, some fine to medium gravel. Sand is well sorted. SP		0	90
95					Light brown loose SAND and Gravel, rounded. GP			95
100	C-12	95-105					0	100
105								105
110	C-13	105-115			Light brown-yellow loose medium SAND, some gravel maximum diameter 1", trace fine sand. SW		0	110

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
120	C-14	115-125			Light brown yellow medium SAND, trace gravel and fines SP		0	120
125					Water at 126 feet			125
130	C-15	125-135			Light gray brown medium to coarse (quartz) SAND, trace gravel (rounded to subrounded) 2" diameter. 2.5Y 7/2. SP		0	130
135					Light gray brown fine to medium SAND with very little gravel or fines. 2.5Y 7/2. SP			135
140	C-16	135-145					0	140
145					Light brown gray medium SAND with little Gravel and trace cobbles (200 mm), rounded to subrounded. SP	G23DAA (143'-146')		145
150	C-17	145-155					0	150
					Light brown fine to medium SAND, prory graded, rounded to subrounded. 7.5YR6/3SP	G23DBA (152'-155')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 5 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
160								160
165	C-17	155-175			Light brown fine to medium SAND (quartz), poorly graded, rounded to subrounded. 7/5YR 6/3 (160-161' - minor cementation of fine grained sands, very loose sands). SP	G23DCA (163'-166')	0	165
170								170
175						G23DDA (173'-176')		175
180								180
185	C-18	175-195			Light brown/gray fine to medium, poorly graded, loose SAND, some fine and coarse gravel, trace very small cobbles, rounded to subrounded, 10YR 6/2. SP	G23DEA (183'-186')	0	185
190						G23DFA (193'-196')		190

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 6 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
200								200
205	C-19	195-215		18	pale brown fine to medium, very loose, poorly graded SAND, some fine to coarse gravel, rounded to subrounded. 10YR 6/3 SP grading to	G23DGA (203'-206')	0	205
210					pale brown fine, poorly sorted SAND, trace fine gravels 10YR 6/3 SP			210
215						G23DHA (212'-215')		215
220								220
225	C-20	215-235		10	pale brown, fine to medium, poorly sorted, very loose SAND, trace fine and coarse gravel 10YR 6/3 SP	G23DIA (223'-226')	20	225
230								230
						G23DJA (233'-236')		

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 7 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
240	C-21	235-255			Pale brown very fine to fine uniform, loose, SAND, 10 YR/6/3, SP	G23DKA (243'-246')	2.5	240
					Pale brown fine to medium, poorly graded SAND, trace fine to coarse gravel, SP			
					Yellowish brown SILT, some sand, trace gravel, cohesive, 10.5YR 6/3. ML			
245					Light yellowish brown, fine to medium, poorly graded SAND, trace fine to coarse gravel, subrounded to rounded, 10.5 YR 6/4. SP			245
250	C-22	255-275		13	Dark brown, fine to medium SAND, some silt, trace gravel, very loose, subrounded to rounded. 7.5YR 3/2. SM	G23DLA (253'-256')	2.3	250
255					Light yellowish brown, fine to medium, poorly graded SAND, 10.5 YR 6/4 SP			255
260								260
265					Pale brown, fine to medium, poorly graded SAND, some fine to coarse gravel rounded to subrounded, 10 YR 6/3. SP	G23DMA (263'-266')		265
270						G23DNA (273'-276')		270

BORING LOG

BORING NO. MW-23

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 8 OF 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
280					Dark greenish gray, fine to medium SAND, some gravel, poorly graded, subrounded to rounded. SP			280
285	C-23	275-295			SILT, some sand and clay, low plasticity, medium stiff to stiff, grading to very fine sand, some silt and clay, clay 2 4/1. CL/SC	No Sample	0	285
290					Light olive gray very fine to fine SAND, some silt, poorly graded, rounded to subrounded, medium dense to dense, SY 6/2. SP	G23DOA (293'-296')		290
295								295
300	C-24	295-307		12	Dark greenish gray SILT, trace sand and clay, slight plasticity, very stiff to hard, Gley 2 4/1. ML		.0	300
305					Dark greenish gray fine to medium SAND, some fine to coarse gravel, trace clay and silt, subangular to subrounded, dense to very dense, Gley 2 4/1. SP	No Sample		305
310	C-25	307-311		4	Dark greenish gray fine to medium SAND, some silt, rounded to subrounded, dense to very dense, Gley 2 4/1. SP	No Sample	0	310
	C-26	311-316		8	BEDROCK, meta granite, slight gneissic layering			

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 9 OF: 9

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (ft.)	Description	Lab Samp (Depth)	FID	Depth (feet)
	C-27	316-318		0.5				
320	C-28	318-321			BEDROCK, meta granite, slight gneissic layering			320
325	C-29	321-326		2.25				325
330					END OF BORING 326 FEET			330
335								335
340								340
345								345
350								350

OGDEN

BORING LOG

BORING NO. **MW-24**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 1
PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Auger
TOTAL DEPTH: 16.25' DATE STARTED: 10/16/97 DATE FINISHED: 10/16/97
REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
5	S-1	6-8	7-12-14-15	12	Yellow fine to medium SAND, some gravel, 10Y7/6. SW	S24DCA (6'-8')	6.0	5
10								10
15								15
20					End of Boring 16.25 feet			20
25								25
30								30

BORING LOG

BORING NO. **MW-25**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 TOTAL DEPTH: 122 feet DATE STARTED: 9-19-97 DATE FINISHED: 9-23-97
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
0	HA-1	0-0.5			Dark brown SILT, little clay, trace fine sand, roots, 7.5YR2.5/3. OL	S25DAA (0'-0.5')	0.5	0
1	HA-2	1.5-2.0				S25DBA (1.5'-2.0')		1
5								5
10	S-1	10-12	6-8-100/2"	12	Very pale brown fine to coarse SAND, little silt, trace fine to coarse gravel, medium dense, dry, very dense, 10YR 7/4. SP	S25DCA (10'-14')	0.0	10
15	S-2	12-14	12-15-22-22	14				15
20	S-3	20-22	3-6-11-12	2	Pale yellow fine to coarse SAND, trace fine gravel and silt, dense, dry, 2.5Y 7/4. SW	S25DDA (20'-24')	0.0	20
25	S-4	22-24	10-20-20-20	18				25
30	S-5	30-32	18-40-32-100/4"	20	Pale yellow fine to coarse SAND, little silt, trace fine gravel, very dense, dry, 2.5Y7/4. SP	S25DEA (30'-32')	0.0	30

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-6	40-42	90/6"	2				40
	S-7	42-44	83-106-160	18	Pale yellow fine to coarse SAND, trace fine to coarse gravel and silt, very dense, dry, 2.5YR7/4. SP	S25DFA (42-44)	2.0	45
45								45
50	S-8	50-52	86-84	12	Very pale brown fine to coarse SAND, little fine to medium gravel, trace silt, very dense, dry, 10YR7/4. SP	S25DGA (50-52)	0.5	50
55								55
60	S-9	60-62	10-15-28-53	18	Brownish yellow fine to coarse SAND, trace fine gravel and silt, medium dense, dry, 10YR6/6. SW	S25DHA (60-62)	0.3	60
65								65
70	S-10	70-72	19-18-35-65	20	Very pale brown fine to coarse SAND, trace fine gravel and silt, very dense, dry, 10YR7/4. SW	S25DIA (70-72)	0.0	70

BORING LOG

BORING NO. **MW-25**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-11	80-82	10-23-43-49	19	Very pale brown, fine to medium SAND, little fine to medium gravel, trace silt, very dense, dry, 10YR7/4. SP	S25DJA (80'-82')	0.0	80
85								85
90	S-12	90-92	10-19-21-22	18	Very pale brown, fine to medium SAND, little fine to medium gravel, trace silt, very dense, dry, 10YR7/4. SP	S25DKA (90'-92')	0.0	90
95								95
100	S-13	100-102	7-10-16-32	15	Very pale brown fine to coarse SAND, trace fine gravel and silt, medium dense, damp to moist, 10YR7/4.	S25DLA (100'-102')	0.0	100
105								105
110	S-14	110-112	100/6"	2	Very pale brown fine to coarse SAND, trace fine gravel and silt, medium dense, damp to moist, 10YR7/4.	S25DMA (110'-114')	0.0	110
	S-15	112-114	24-100/5"	2				

BORING LOG

BORING NO. **MW-25**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
120	S-16	120-122	4-4-6-7	6	Very pale brown, fine to coarse SAND, trace fine gravel and silt, wet. SW	G25DAA (120') S25DNA (120'-122')	0.0	120
125					End of boring at 122 feet			125
130								130
135								135
140								140
145								145
150								150

BORING LOG

BORING NO. **MW-26**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 150 feet DATE STARTED: 1-12-98 DATE FINISHED: 1-14-98

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
0	HA-1	0-0.5				S26A (0'-0.5')		0
5								5
10	S-1	10-12	4-27-19-24	7	Light brown medium SAND, some gravel, trace silt, poorly graded, 10YR6/8. SP	S26DCA (10'-12')	0	10
15								15
20								20
25	S-2	22-24	67-100/4"	6	Yellowish brown coarse GRAVEL, some silt, dry, 10YR5/4. GM	NO. SAMPLE	0	25
30								30
	S-3	30-32	10-19-12-18	17	Yellowish brown medium SAND, loose, poorly graded, 10YR5/6. SP	S26DEA (32'-34')	0	

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
40	S-4	42-44	25-16-27-19	18	Light brownish yellow medium SAND, dry to slightly moist, poorly graded, loose, 10YR6/8. SP	S26DFA (42-44)	0.0	40
45								45
50	S-5	51-53	6-12-6-15	9	Very pale brown fine to coarse SAND, with gravel, loose, poorly graded, dry to slightly moist, 10YR7/4. SP	S26DGA (51-53)	0.0	50
55								55
60								60
65	S-6	63-65	4-59-100/0"	0				65
	S-7	65-67	16-19-27-19	18	Brownish yellow medium SAND, some coarse gravel, poorly graded, loose, 10YR6/8. SP	S26DHA (65-67)		65
70								70
	S-8	71-73	2-12-17-14	8	Brownish yellow medium to coarse SAND, trace gravel, loose, poorly graded, 10YR6/8. SP	S26DIA (71-73)		

BORING LOG

BORING NO. **MW-26**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80								80
85	S-9	83-85	8-12-77-58	10	Brownish yellow coarse SAND, some coarse gravel, loose, slightly moist, poorly graded, 10Y6/6. SP	S26DJA (83'-85')	0	85
90								90
95	S-10	91-93	3-4-7-77	11	Brownish yellow GRAVEL, some silt, loose, slightly moist, 10YR6/6. GM	S26DKA (91'-93')	0	95
100								100
105	S-11	103-105	11-13-9-25	12	Yellowish brown medium SAND, loose, dry to slightly moist, poorly graded, 10YR5/6. SP	S26DLA (103'-105')	0	105
110								110
	S-12	111-113	7-15-40-44	15		S26DMA (111'-113')	0	
	S-13	113-115		12	Brownish yellow medium SAND, loose, poorly graded, dry, 10YR6/6. SP		0	

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
120								120
125	S-14	123-125	7-10-13-15	10	Light yellowish brown, medium to coarse SAND, some coarse gravel, dry, loose, poorly graded, 10YR6/4. SP	S26DNA (123'-125')	0	125
130								130
135	S-15	131-133	5-7-22-3	12	Yellowish brown coarse SAND, some coarse gravel, loose, poorly graded, moist, 10YR5/6. SP	S26DOA (131'-133')	0	135
140								140
145	S-16	143-145	15-23-8-16	18	Yellowish brown medium to coarse SAND, little fine to coarse gravel, poorly graded, wet, 10YR5/8. SP	S26DPA (143'-145')	0	145
150					End of boring at 150 feet			150

BORING LOG

BORING NO. **MW-27**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 4
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 TOTAL DEPTH: 135 feet DATE STARTED: 10-6-97 DATE FINISHED: 10-7-97
 REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (depth)	FID	Depth (feet)
	HA-1 HA-2 HA-3	0-0.25 0.25-0.5 1.5-2.0			Dark brown fine SAND, some silt, trace fine gravel, roots, 7.5YR2.5/3. SM Light yellowish brown SAND, some silt, trace fine to medium gravel, roots, 10YR6/4. SP	S27DAA (0'-0.5') S27DBA (1.5'-2.0')	0.0	
5								5
10	S-1	10-12	15-33-45/1"	3	Very pale brown fine to coarse SAND, little fine to coarse gravel, trace silt, dry, very dense, 10YR8/3. SP	S27DCA (10'-14')	0.0	10
	S-2	12-14	50-100-25-52	18				
15								15
20	S-3	20-22	100/0"	0				20
	S-4	22-24	8-9-8-12	12	Light yellowish brown fine to coarse SAND, trace silt and fine gravel, dry, medium dense, 10YR6/4. SW	S27DDA (22'-24')	0.0	25
25								
30	S-5	30-32	10-21-31-95	12	Light yellowish brown fine to coarse SAND, little fine to coarse gravel, trace silt, dry, very dense, 10YR6/4. SP	S27DEA (30'-32')	0.0	30

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-6	40-42	8-20-30-38	18	Very pale brown fine to coarse SAND, trace fine to medium gravel and silt, very dense, dry to moist, 10YR8/3. SP	S27DFA (40-42)	0.0	40
45								45
50	S-7	50-52	31-25-39-50	0				50
	S-8	52-54	8-3-25-35	16	Very pale brown fine to coarse SAND, trace fine to coarse gravel and silt, very dense, dry, 10YR8/3. SP	S27DGA (52-54)	0.0	
55								55
60	S-9	60-62	11-15-21-20	15	Very pale brown fine to coarse SAND, trace fine to coarse gravel and silt, very dense, dry, 10YR8/3. SP	S27DHA (60-62)	0.0	60
65								65
70	S-10	70-72	6-13-20-25	18	Light yellowish brown fine to coarse SAND, little silt, trace fine to medium gravel, dense, dry to moist, 10YR6/4. SW	S27DIA (70-72)	0.0	70

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	S-11	80-82	5-16-23-23	18	Light yellowish brown fine to coarse SAND, little silt, trace fine to medium gravel, dense, dry to moist, 10YR6/4. SW	S27DJA (80'-82')	0.0	80
85								85
90	S-12	90-92	10-15-22-23	19	Light yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, dry to moist, dense, 10YR6/4. SW	S27DKA (90'-92')	0.0	90
95								95
100	S-13	100-102	8-15-20-17	20	Light yellowish brown fine to coarse SAND, trace fine to medium gravel and silt, dry to moist, dense, 10YR6/4. SW	S27DLA (100'-102')	0.0	100
105								105
110	S-14	110-112	3-26-42-41	19	Light yellowish brown fine to coarse SAND, trace fine gravel and silt, very dense, moist, 10YR6/4. SW	S27DMA (110'-112')	0.0	110

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 4 OF: 4

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
120	S-15	120-122	12-15-17-20	12	Yellowish brown fine to coarse SAND, trace fine gravel and silt, dense, wet, 10YR3/4. SP	S27DNA (120'-122')	0.0	120
125						G27DAA (130')		125
130					End of boring at 130 feet			130
135								135
140								140
145								145
150								150

OGDEN

BORING LOG

BORING NO. **MW-28**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 3
PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
TOTAL DEPTH: 110 feet DATE STARTED: 7-28-97 DATE FINISHED: 7-30-97
REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
	HA-1	0-0.5			Dark yellowish brown fine to medium SAND, trace coarse sand and silt, roots, nonplastic. SW	S28DAA (0'-0.5')	1.7	
	HA-2	1.5-2.0			Brownish yellow fine to medium SAND, trace silt and gravel, roots, nonplastic. SW	S28DBA (0'-0.5')	1.0	
5								5
10	S-1	10-12	32-18-21-34	18	Light yellowish brown, medium to coarse SAND, trace fine sand and gravel, medium dense, non-plastic, 2.5Y 6/4. SW	S28DCA (10'-14')	0.1	10
	S-2	12-14	18-21-37	12				
15								15
20	S-3	20-22	21-12-4-25	15	Pale yellow medium to coarse SAND, trace fine sand and fine gravel, medium dense, non-plastic, 2.5Y 7/3. SP	S28DDA (20'-22')	0.3	20
25								25
30	S-4	30-32	4-12-7-13	18	Pale yellow fine to medium SAND, some coarse sand and gravel, loose, non- plastic, 2.5Y 7/3. SW	S28DEA (30'-32')	0.0	30

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	16-26-23-27	12	Pale yellow medium to coarse SAND, some fine sand, trace gravel, medium dense, non-plastic, 2.5Y7/3. SW	S28DFA (40-42)	0.0	40
45								45
50	S-6	51-53	5-8-12-27	18	Very pale brown fine to medium Sand, some coarse sand and gravel, loose to medium dense, non-plastic, 10YR8/3. SW	S28DGA (51-53)	0.3	50
55								55
60	S-7	60-62	13-13-17-21	20	Very pale brown medium SAND, some fine sand, trace coarse sand, medium dense, non-plastic, 10YR8/3. SP	S28DHA (60-62)	0.3	60
65								65
70	S-8	70-72	7-11-20-22	18	Very pale brown medium SAND, some fine sand, trace coarse sand, medium dense, non-plastic, 10YR8/3. SP	S28DIA (70-72)	0.0	70

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
80	S-9	80-82	23-35-58-55	0				80
	S-10	82-84	14-21-33-41	24	Light yellowish brown, fine to medium SAND, some coarse sand, trace gravel, medium dense, non-plastic, 10YR6/4. SP	S28DJA (82'-84')	0.3	85
85								
90	S-11	90-92	13-15-18-27	24	Fine to medium SAND, trace gravel, medium dense, non-plastic, 10YR8/3. SP	S28DKA (90'-92')	0.4	90
95								95
					Water at 98 feet.			
100	S-12	100-102	3-5-16-16	18	Light brown fine to medium SAND, loose to medium dense, non-plastic, 10YR8/3. SP	S28DLA (100'-102')	1.6	100
105								105
110					END OF BORING 110 FEET			110

BORING LOG

BORING NO. **MW-26**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 3

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 112 feet DATE STARTED: 7-31-97 DATE FINISHED: 7-31-97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
5	HA-1 HA-2	0-0.5 1.5-2.0			Olive yellow SILT, some sand, trace clay, nonplastic, 2.5Y6/8. SM	S29DAA (0'-0.5') S29DBA (1.5'-2.0')	2.1	5
10	S-1	10-12	9-13-12-20	16	Pale yellow, fine to medium SAND, some coarse sand, trace fine gravel, medium dense, non-plastic, 2.5Y 7/3. SW	S29DCA (10'-14')	0.3	10
15	S-2	12-14	18-22-20-20	18				15
20	S-3	20-22	9-15-25-41	12	Light yellowish brown fine to medium SAND with coarse sand, some fine gravel, medium dense, non-plastic, 2.5Y 6/3. SW	S29DDA (20'-22')	0.0	20
25								25
30	S-4	30-32	23-26-22-24	12	Pale yellow medium to coarse SAND, with fine sand, some gravel, medium dense, non-plastic, 2.5Y7/3. SW	S29DEA (30'-32')	0.0	30

BORING LOG

BORING NO. **MW-29**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 2 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
40	S-5	40-42	7-15-16-18	16	Olive yellow fine to medium SAND, some coarse sand, trace gravel,	S29DFA (40-44)	4.5	40
	S-6	42-44	7-15-15-19	12	medium dense, non-plastic, 2.5Y6/6. SW		6.9	45
50	S-7	50-52	46-27-34-29	15	Light yellowish brown, fine to medium SAND, some coarse sand and coarse gravel, medium dense to dense, non-plastic, 2.5Y6/4. SW	S29DGA (50-52)	0.0	50
60	S-8	60-62	8-6-7-18	18	Light gray fine to medium SAND, some coarse sand, loose, non-plastic, 2.5Y7/2. SP	S29DHA (60-62)	0.0	60
70	S-9	70-72	14-8-17-18	16	Pale yellow fine to medium SAND, some coarse sand, trace gravel, medium dense, non-plastic, 2.5Y7/3. SP	S29DIA (70-72)	0.0	70

BORING LOG

BORING NO. **MW-2**

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 3 OF: 3

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp (Depth)	FID	Depth (feet)
80	S-10	80-82	12-14-18-23	18	Pale yellow fine to medium SAND, trace coarse sand, medium dense, non-plastic, 2.5Y7/3. SP	S29DJA (80'-82')	0.0	80
85								85
90	S-11	90-92	31-41-26-37	0				90
	S-12	92-94	15-14-28-34	20	Light yellowish brown fine to medium SAND, trace coarse sand and fine gravel, medium dense, non-plastic, moist, 2.5Y6/3. SP	S29DKA (92'-94')	0.0	95
95								95
100	S-13	100-102	10-14-15-21	15	Pale yellow fine to medium SAND, trace coarse sand, medium dense, non-plastic, moist to wet at 102, 2.5Y7/3. SP	S29DLA (100'-102')	0.0	100
105								105
110	S-13	110-112			Light yellowish brown fine to coarse SAND, with fine to coarse gravel, non-plastic, wet, 2.5Y6/3. SW			110
					END OF BORING 112 FEET			



BORING LOG

BORING NO. MW 30

PROJECT NAME: MMR Impact Area LOCATION: Camp Edwards, MA SHEET 1 OF: 2

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

TOTAL DEPTH: 38' DATE STARTED: 10/27/97 DATE FINISHED: 10/28/97

REMARKS: _____

Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (depth)	FID	Depth (feet)
5								5
10	S-1	10-12	5-6-7-7	12	Pale brown coarse SAND, some fine to medium sand and fine gravel, trace silt, loose, dry, 10YR6/3. SP	S30DCA (10'-12')	0.0	10
	S-2	12-14	5-5-6-7	12				
15								15
20	S-3	20-22	11-11-13-12	18	Pale brown coarse SAND, some fine to medium sand and fine gravel, trace silt, loose, dry, 10YR6/3. SP	S30DDA (20'-22')		20
25								25
30	S-4	30-32	7-8-8-12	6	Light yellowish brown coarse SAND, some fine to medium sand, trace gravel and silt, medium, dense, wet, 10YR6/4. SP	S30DEA (30'-32')		30

OGDEN

BORING LOG

BORING NO. **MW 30**

PROJECT NAME: MMR Impact Area

LOCATION: Camp Edwards, MA

SHEET 2 OF: 2

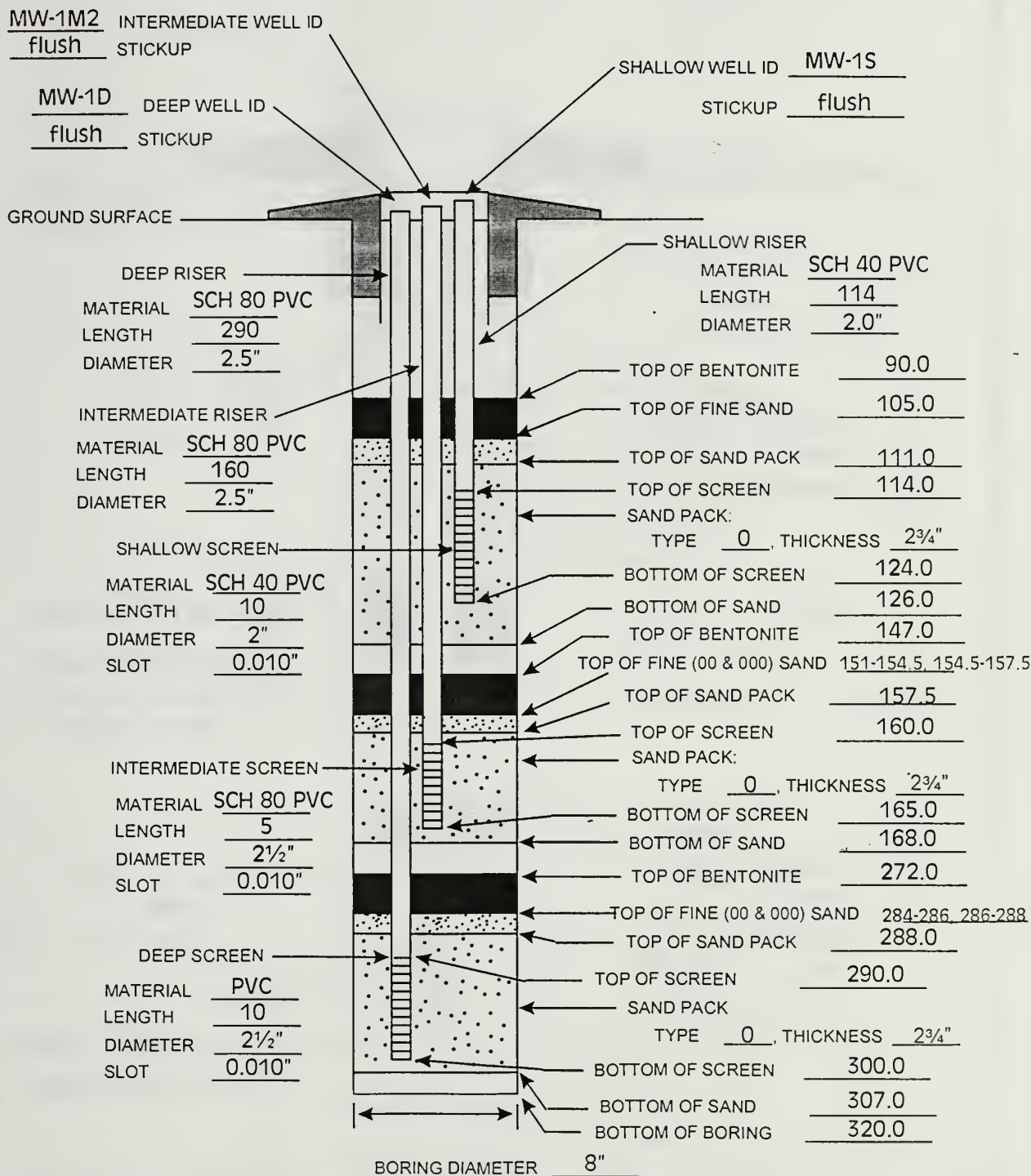
Depth (feet)	Samp. No.	Samp. Depth	Blow Count	Rec. (in.)	Description	Lab Samp. (Depth)	FID	Depth (feet)
	S-5	32-36				G30DAA (35')	0.0	
40					End of Boring 38 feet			40
45								45
50								50
55								55
60								60
65								65
70								70

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9/19/97 WELL NUMBER: MW-1S,M2,D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

REMARKS: Formation collapse from 272' to 168', from 147' to 126', and from 90' to 70', clean sand backfill from 70' to the surface. INSPECTOR: M.P.



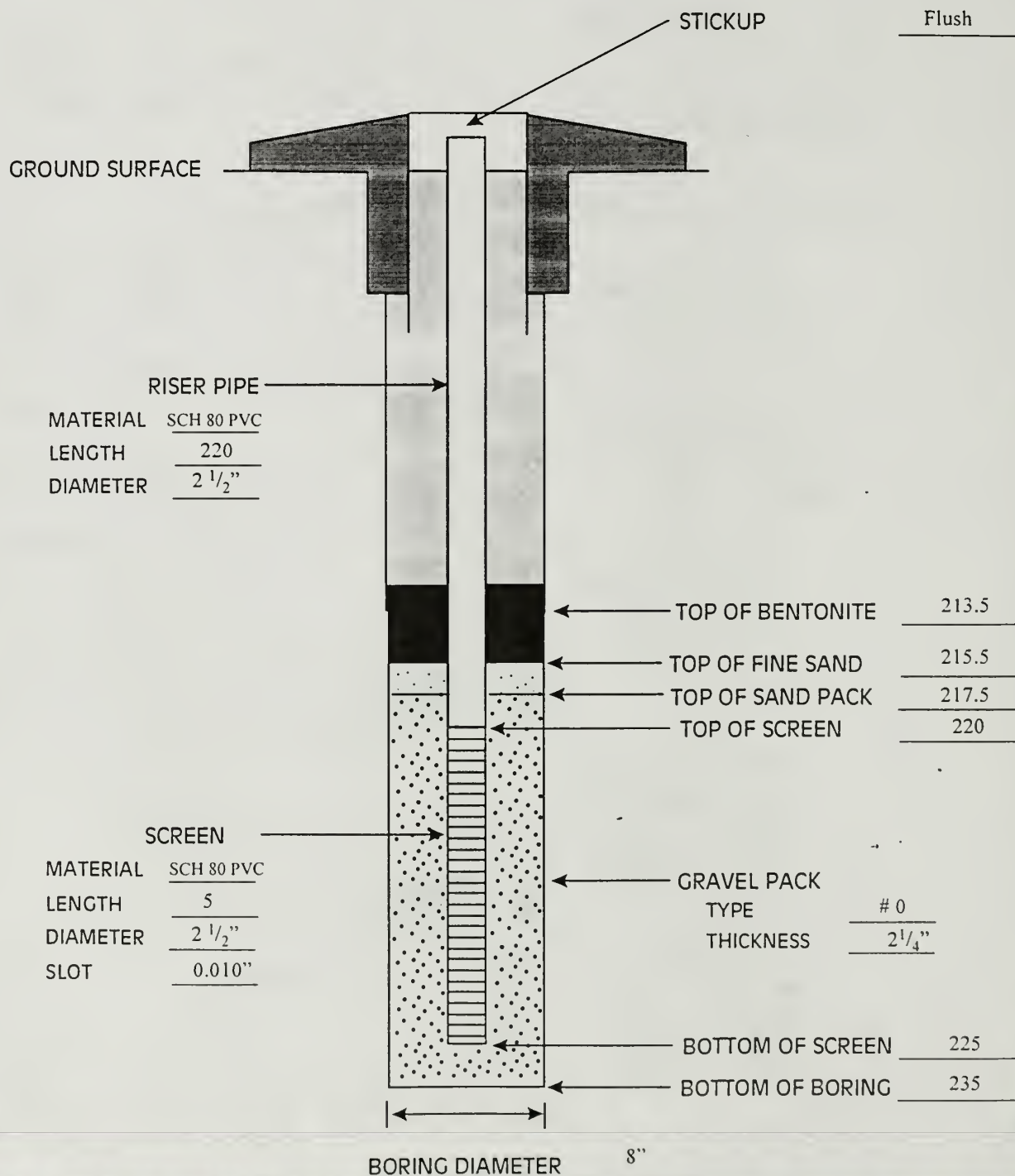
ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 12-19-97 WELL NUMBER: MW-1M1

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

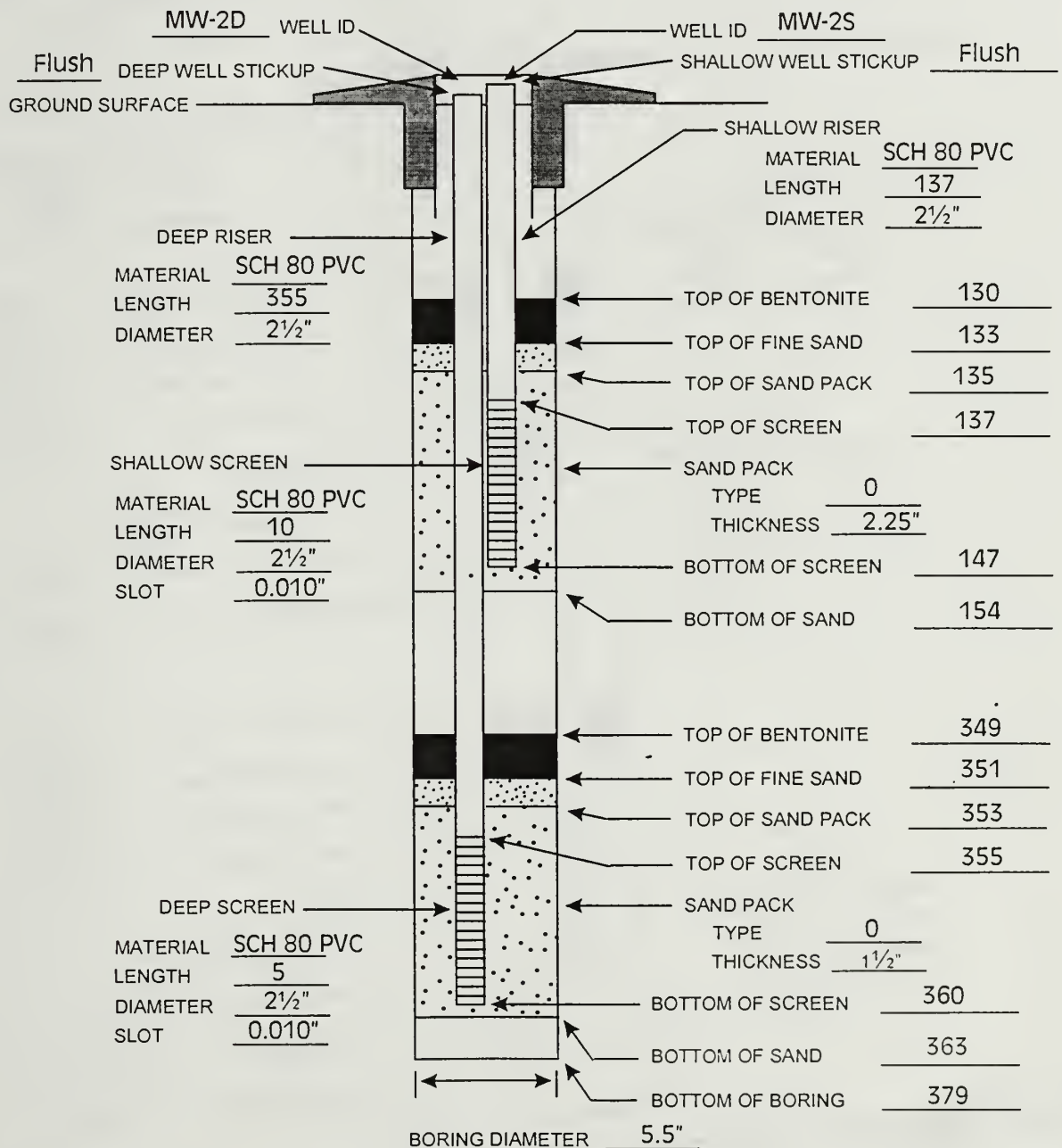
REMARKS: Formation collapse from 235 to 225.5 and from 213.5 to 50, clean sand from 50 to surface INSPECTOR: TD



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

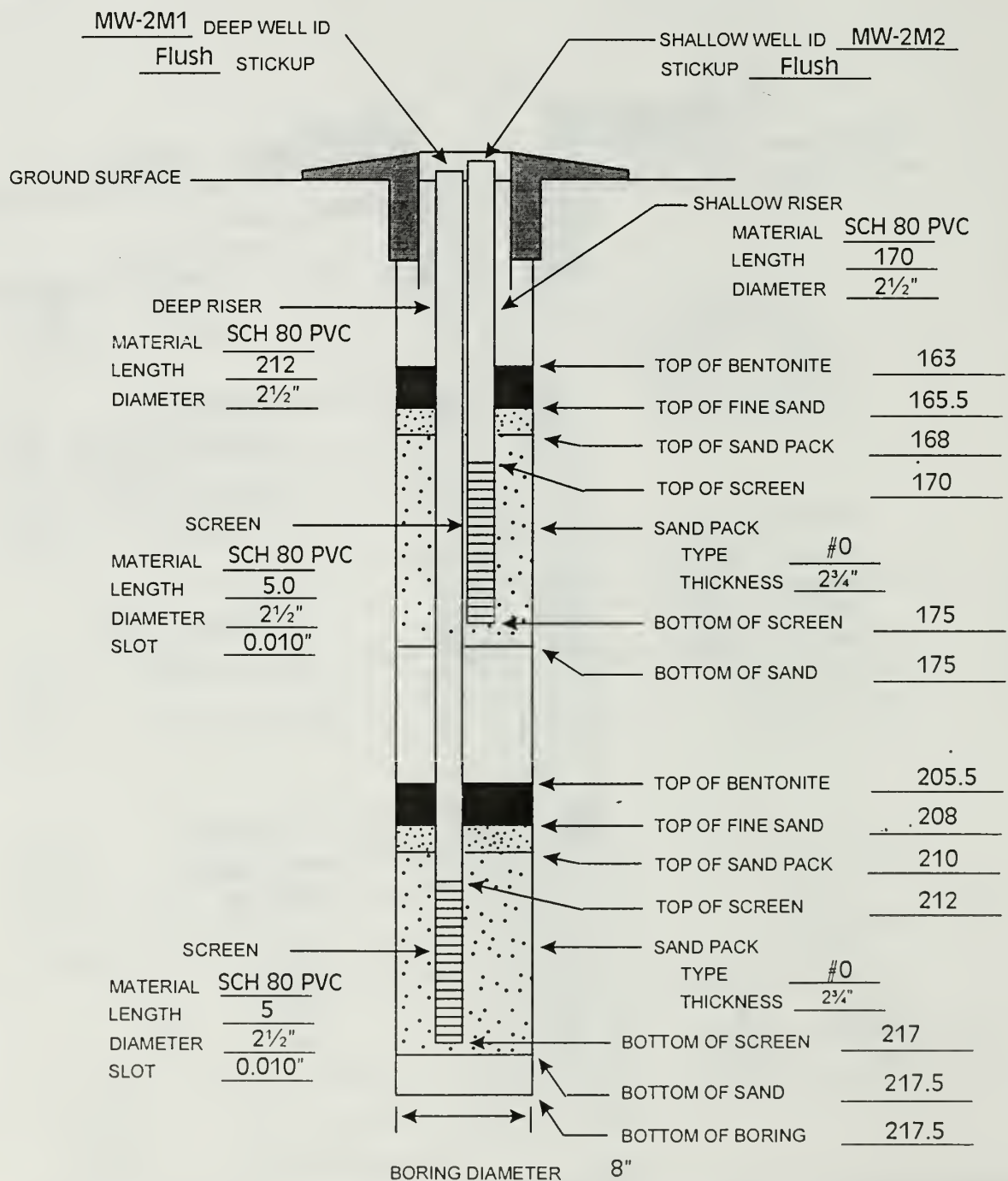
Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 10/28/97 WELL NUMBER: MW-2S&D
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic
 REMARKS: clean sand backfill from 150 to 265 feet, formation collapse INSPECTOR: H.K.
265-349 feet. bentonite from 363-379 feet.



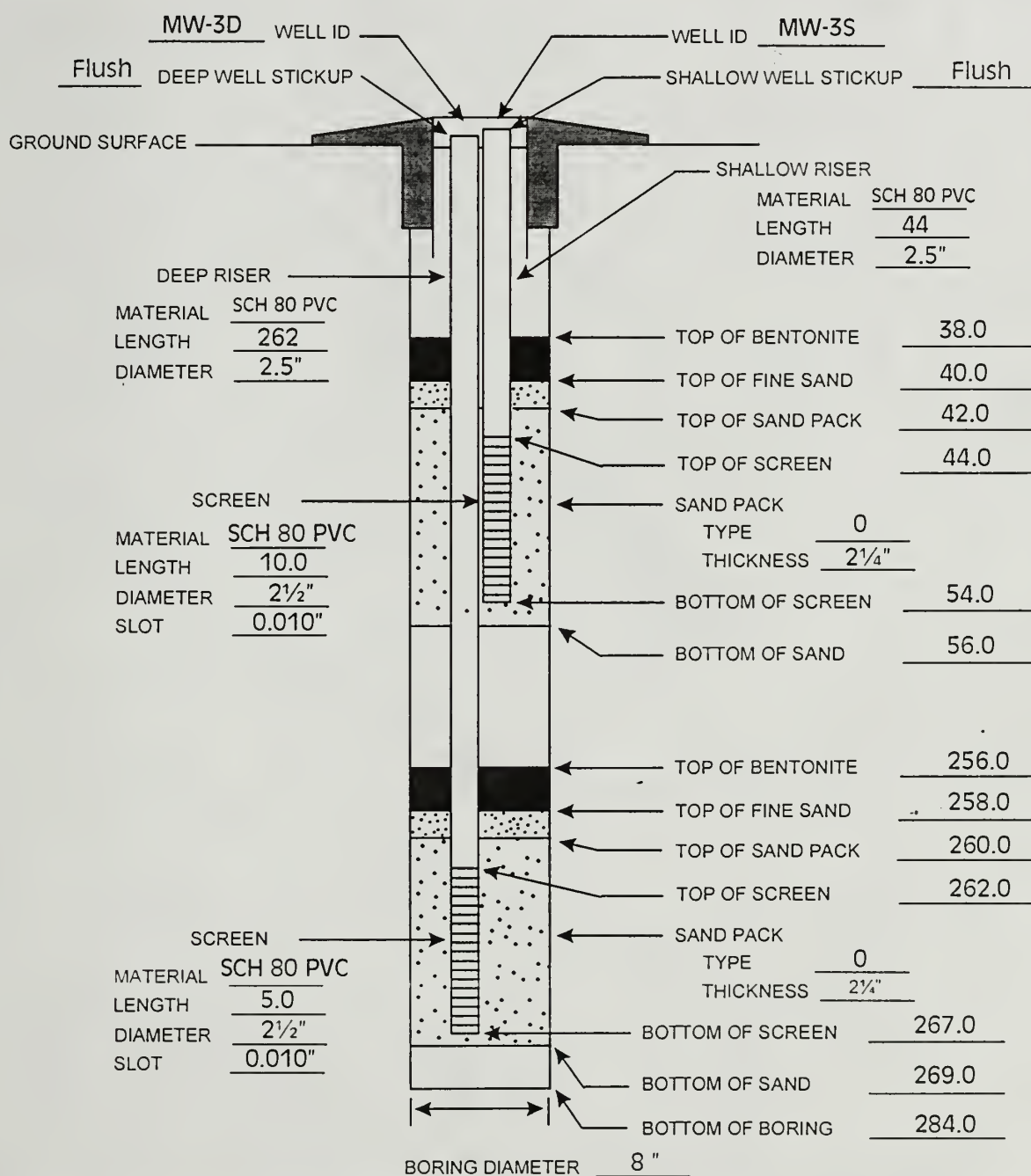
Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 1/9/98 WELL NUMBER: MW-2M1&M2
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 REMARKS: _____ INSPECTOR: R.P.



Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 2/19/97 WELL NUMBER: MW-3S&D
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 REMARKS: _____ INSPECTOR: A.M.

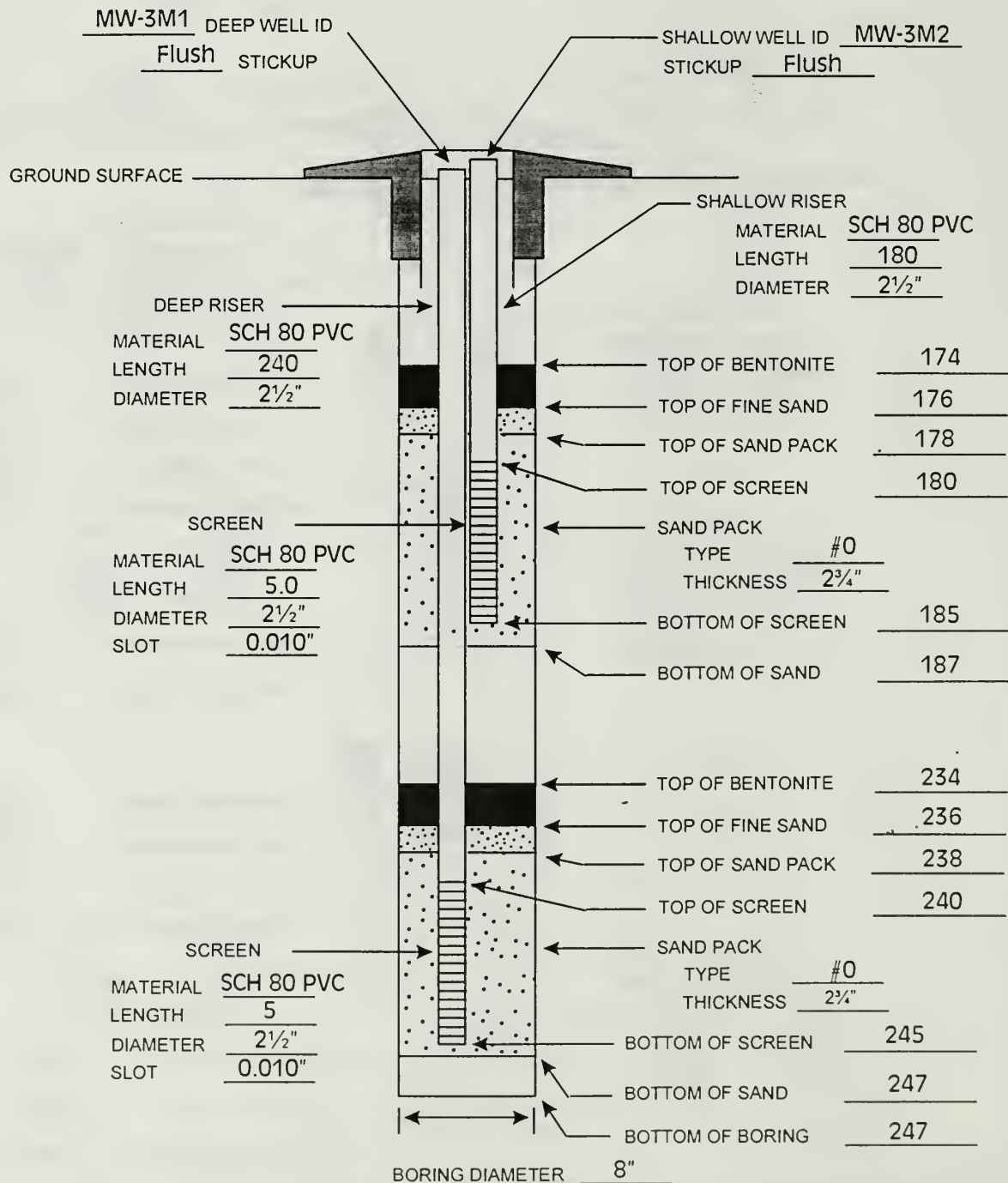


ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

OGDEN

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 3/4/98 WELL NUMBER: MW-3M1&M2
PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
REMARKS: Sand collapse to 42 feet, clean sand fill from 42 feet to surface INSPECTOR: R.P.



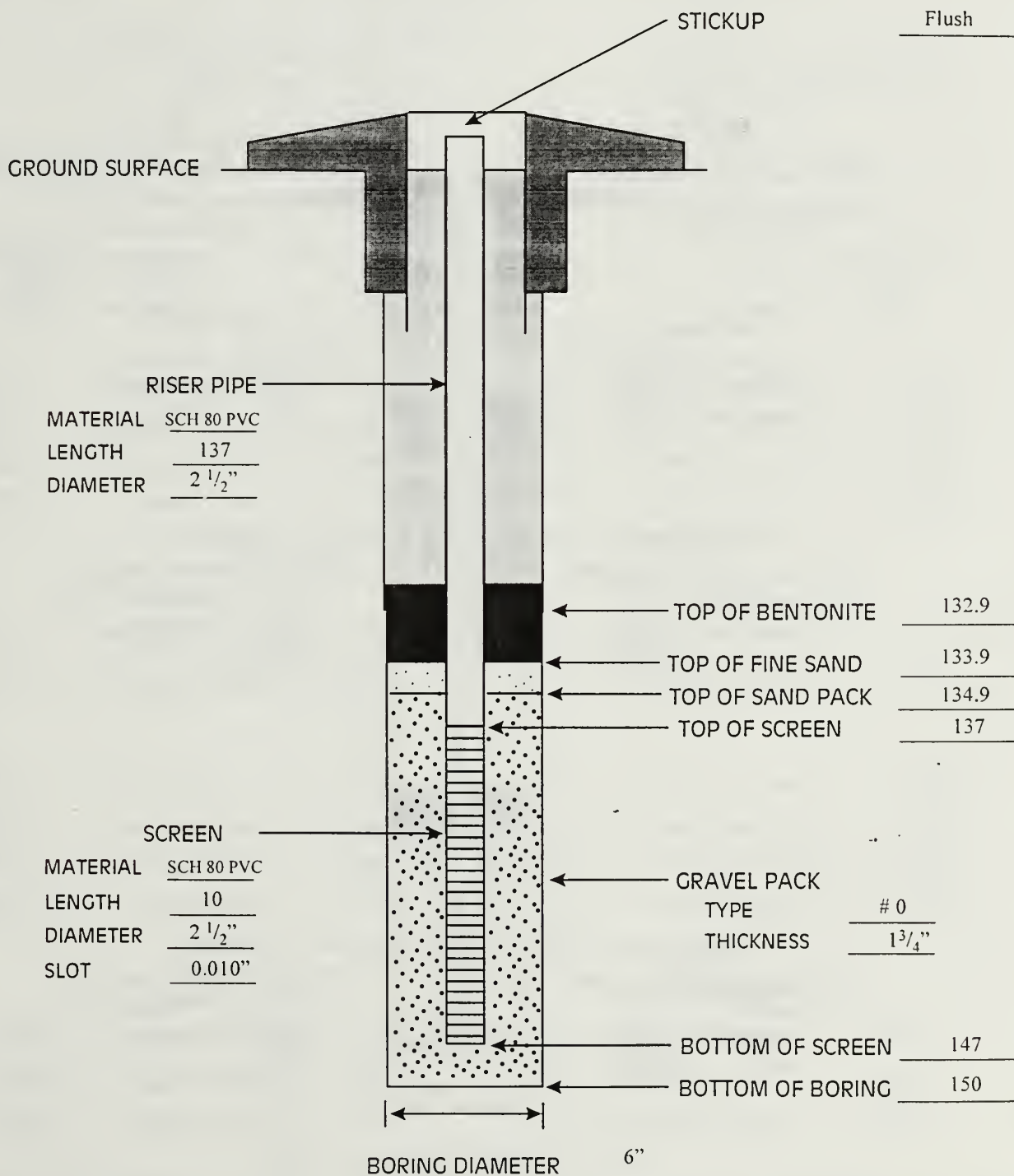
ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 8-18-97 WELL NUMBER: MW-4S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

REMARKS: Formation collapse from 132.9 to 30 feet, clean sand from 30 to the surface INSPECTOR: BS

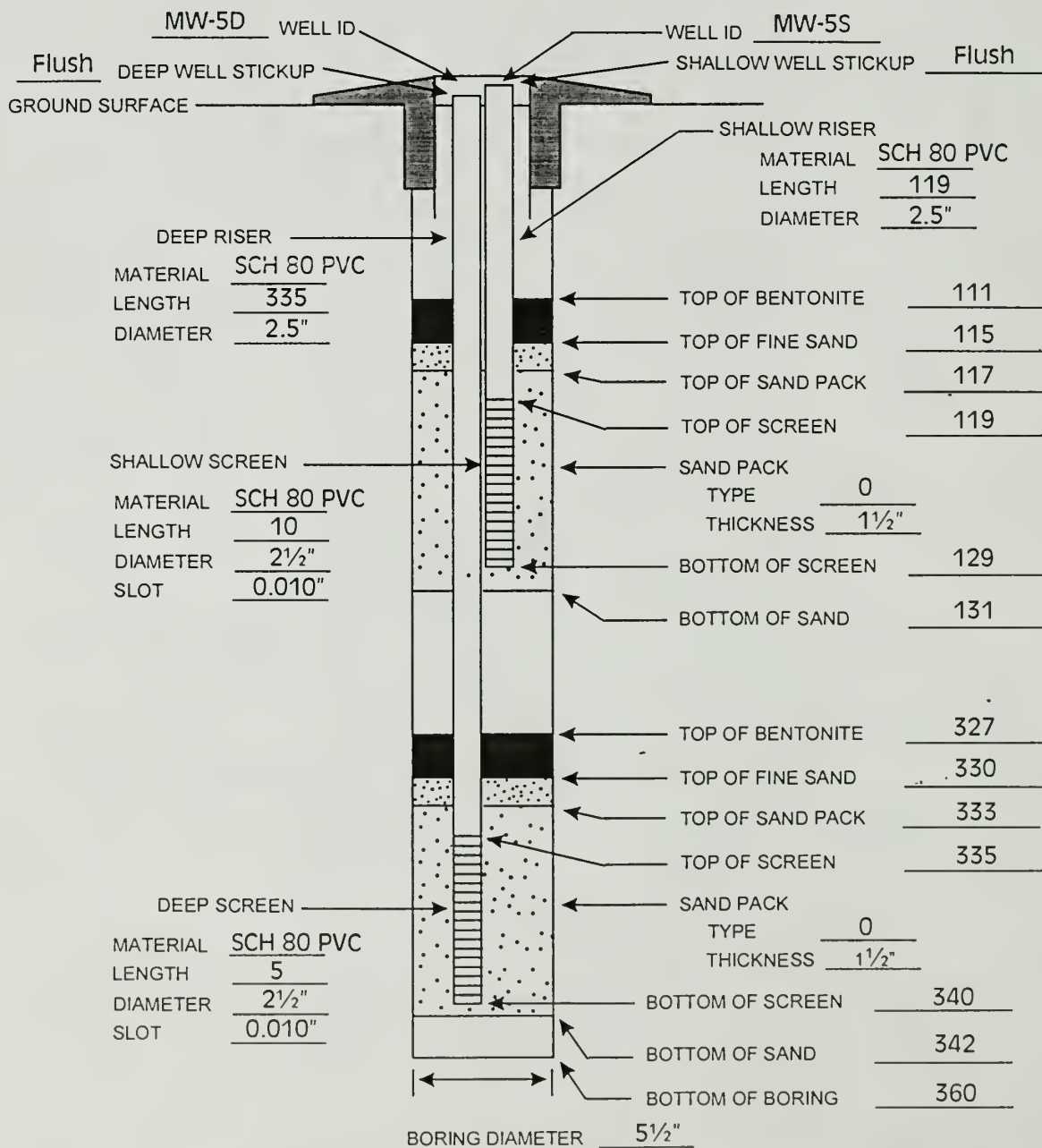


NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

OGDEN

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 11/18/97 WELL NUMBER: MW-5S&D
PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic
REMARKS: _____ INSPECTOR: F.E.



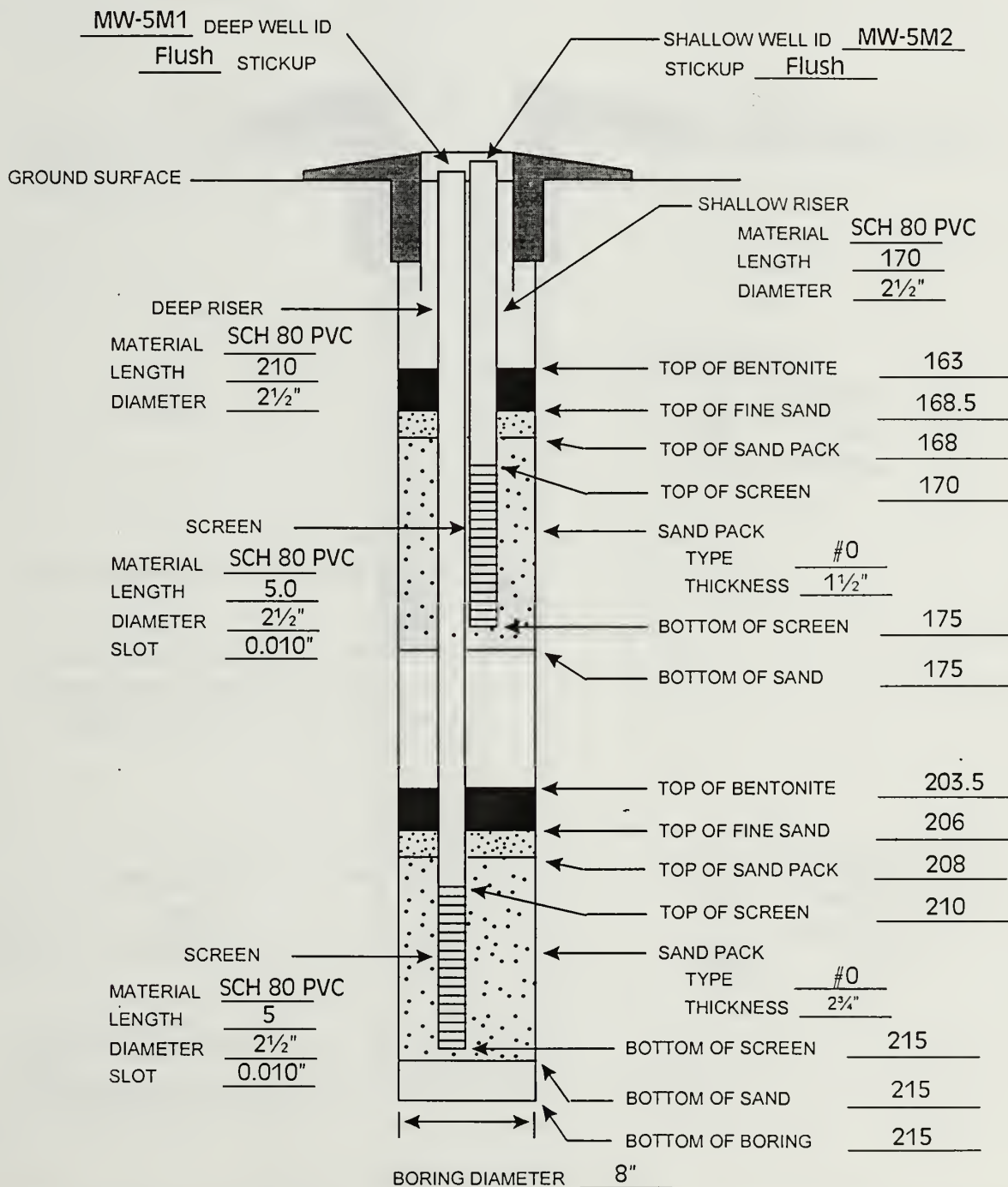
ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 1/28/98 WELL NUMBER: MW-5M1&M2

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

REMARKS: _____ INSPECTOR: B.H.



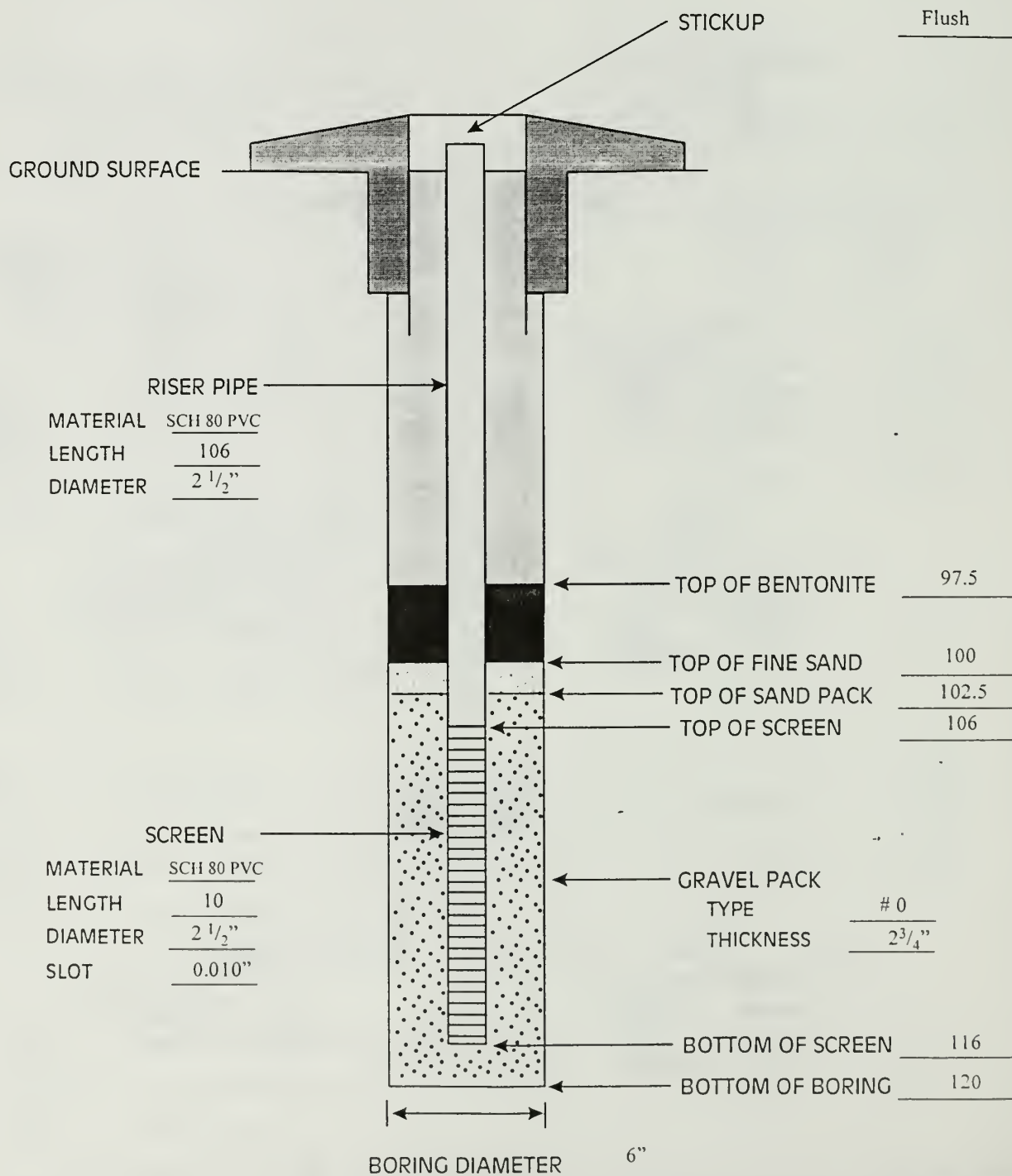


WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9-24-97 WELL NUMBER: MW-6S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

REMARKS: Formation collapse to 46 feet and clean sand from 46 feet to surface INSPECTOR: MP



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

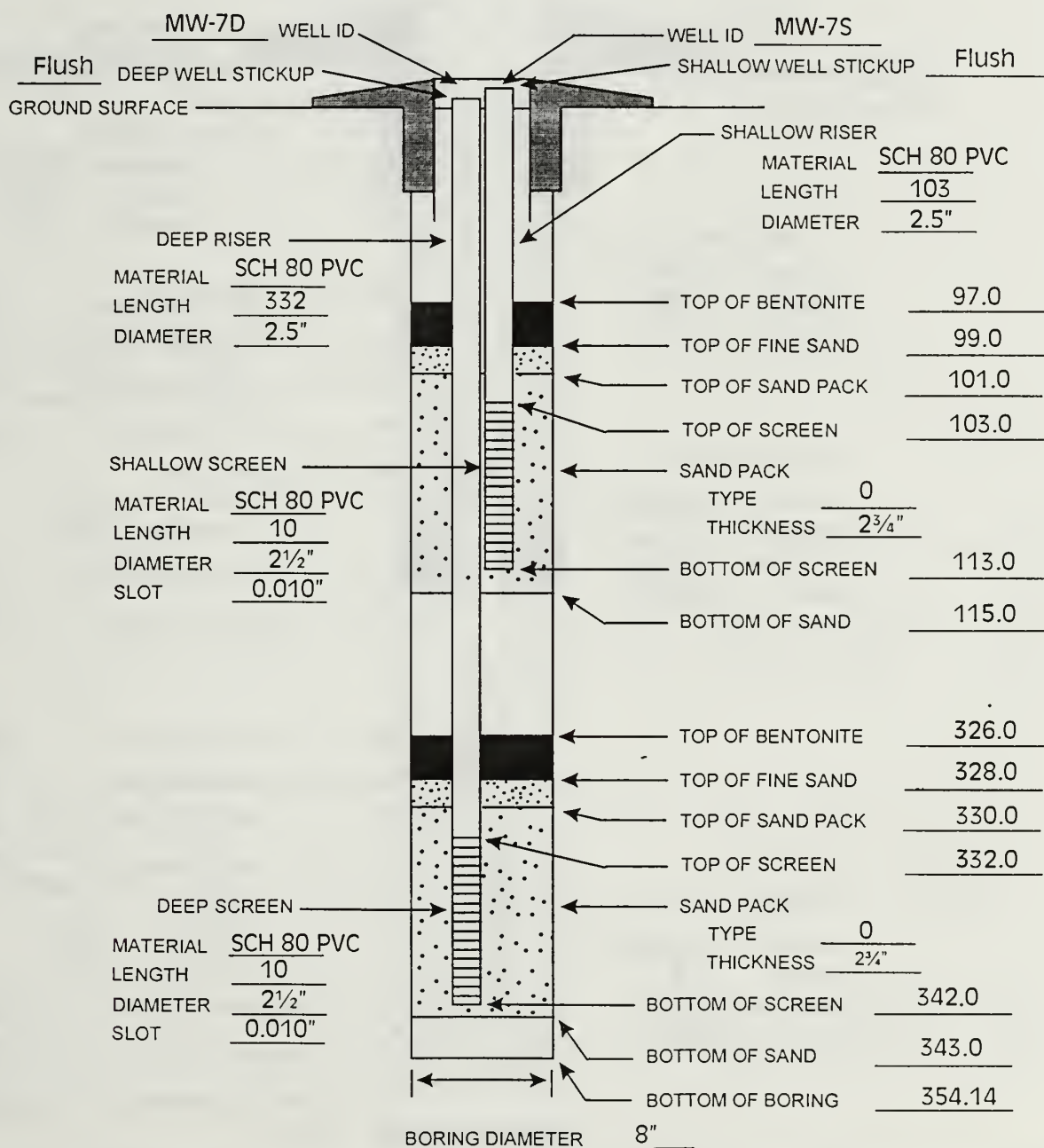
OGDEN

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 8/27/97 WELL NUMBER: MW-7S&D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

REMARKS: Formation collapse 0-97 feet, 115-233 feet and 260-326 feet. INSPECTOR: M.P.
Bentonite from 233-237 feet and 343-354.14 feet.



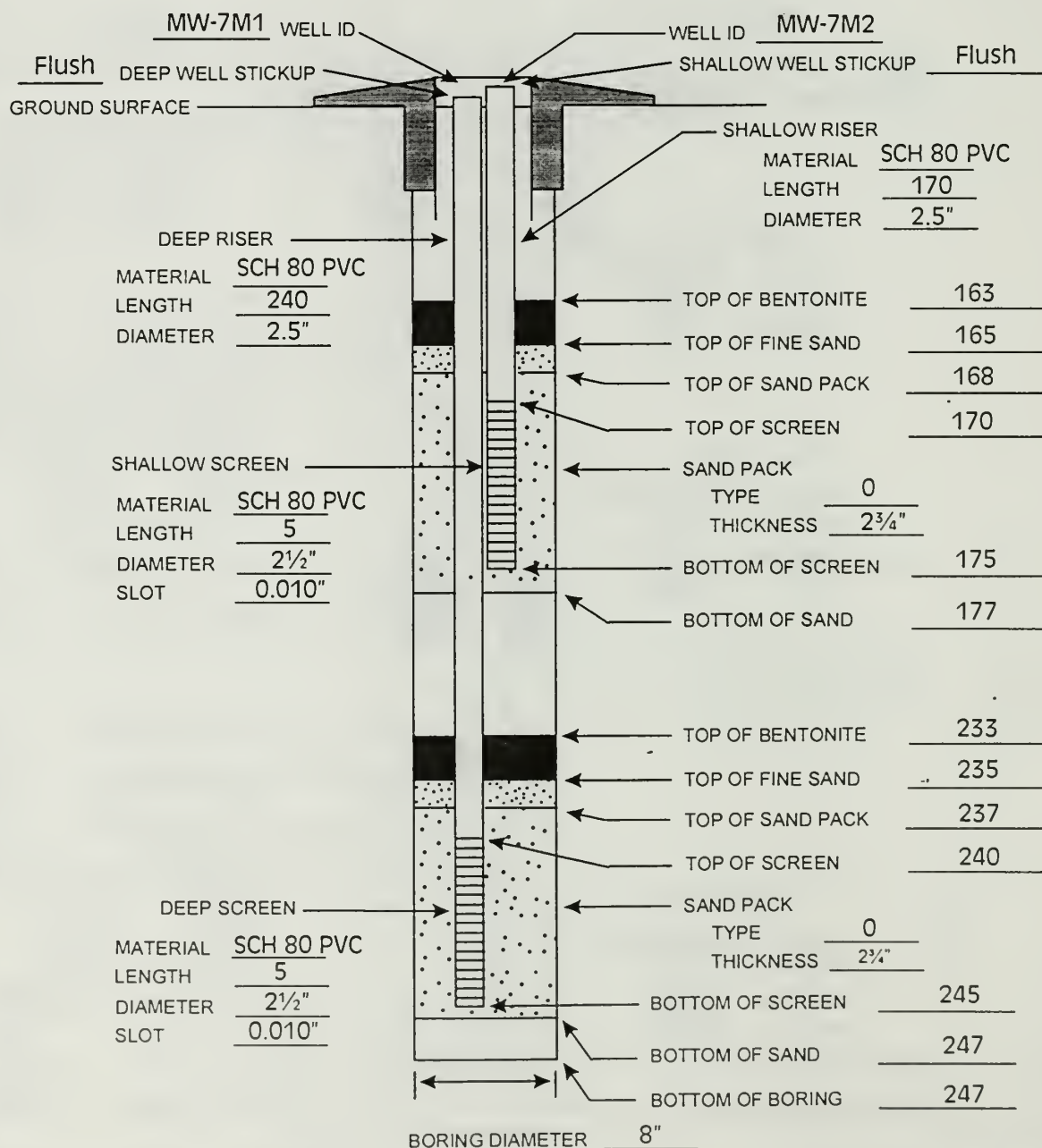
ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 11/18/97 WELL NUMBER: MW-7M1&M2

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

REMARKS: _____ INSPECTOR: M.P.

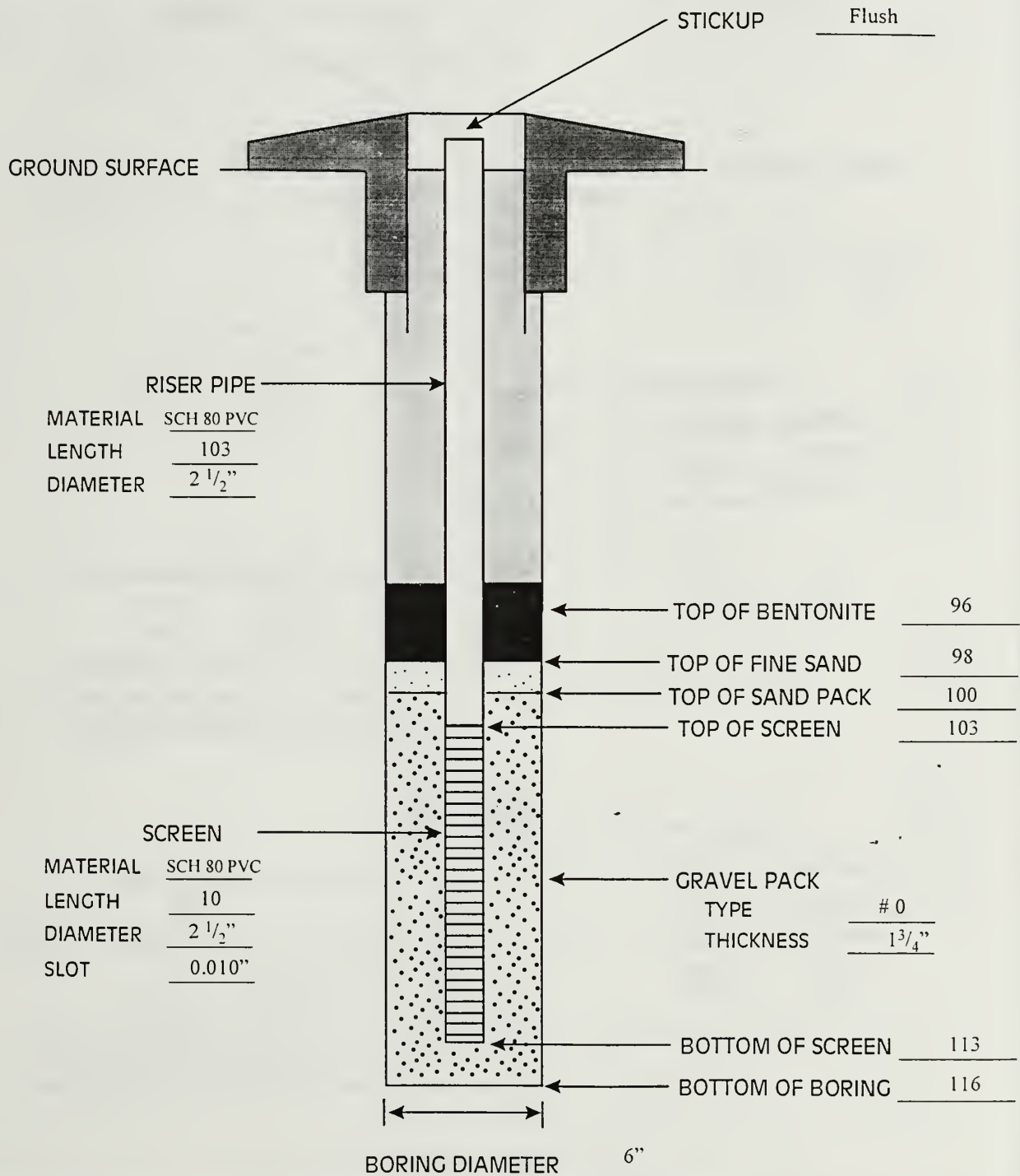


ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 10-2-97 WELL NUMBER: MW-8S
 PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER
 REMARKS: Formation collapse from 47-96 feet. Clean sand backfill from 0-47 feet. INSPECTOR: MP



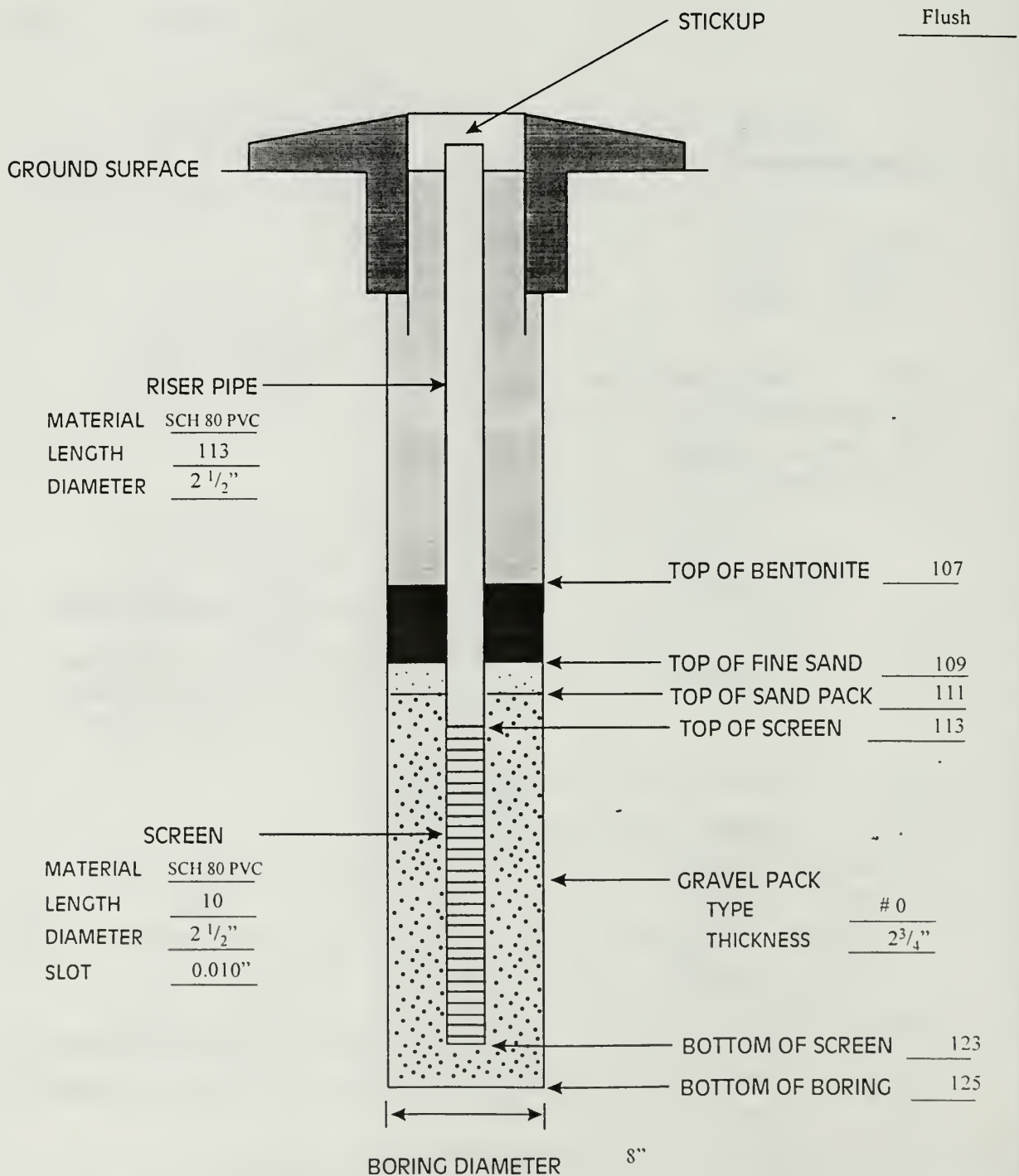
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9-25-97 WELL NUMBER: MW-9S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

REMARKS: Formation collapse from 107 to 57 feet and clean sand from 57 to surface INSPECTOR: MP



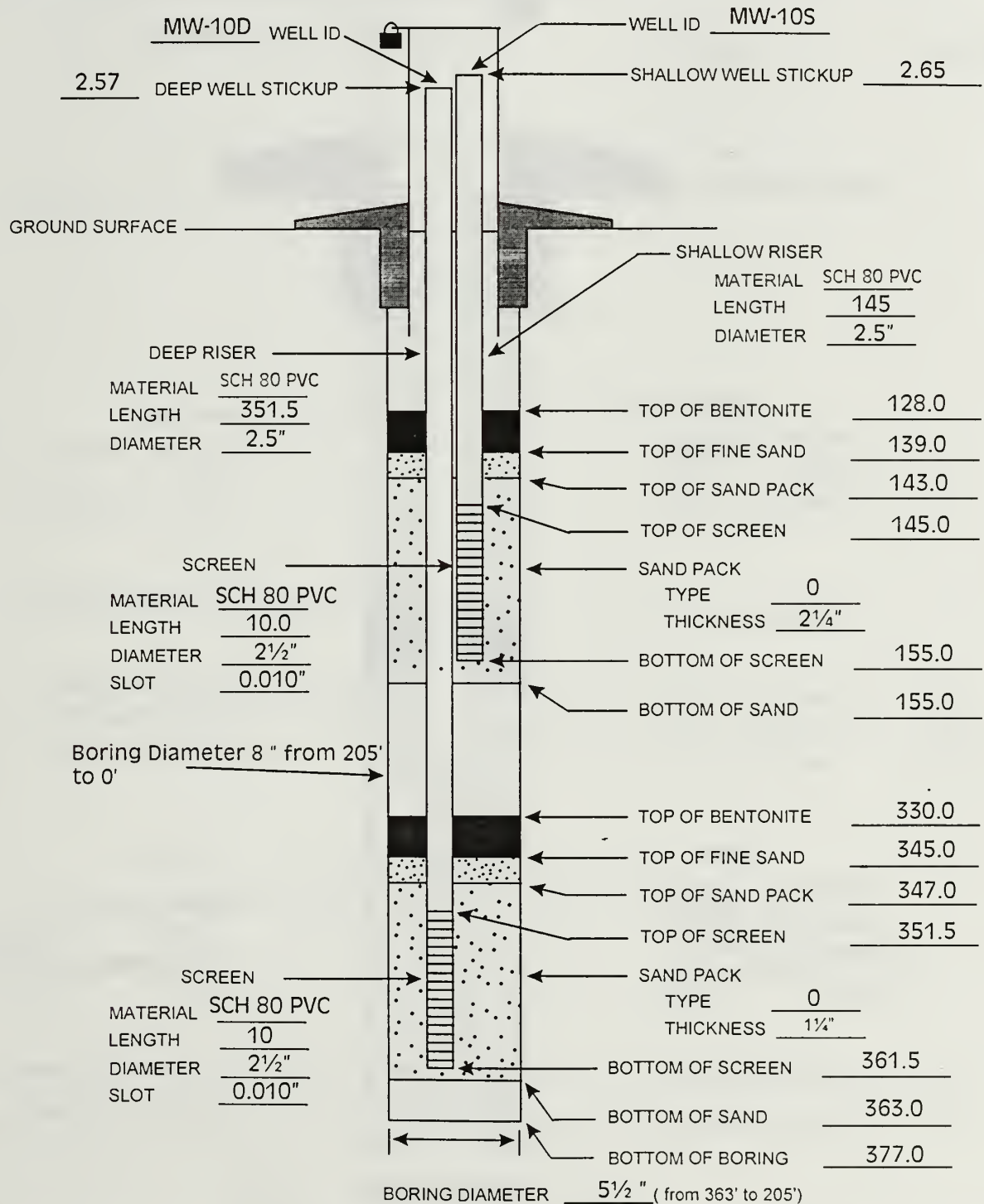
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 8/11/97 WELL NUMBER: MW-10S&D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

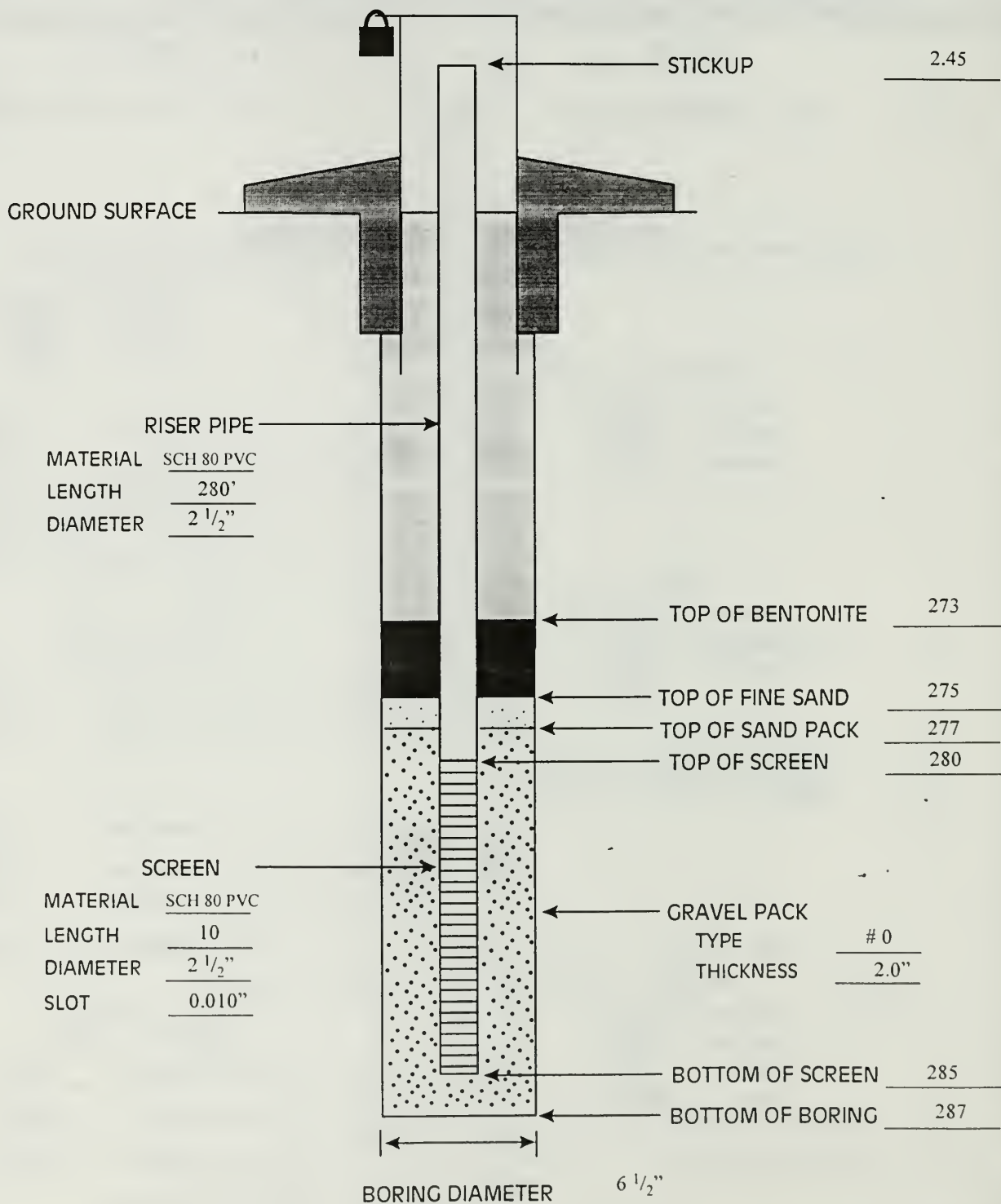
REMARKS: Bentonite chips from 377' to 363', formation collapse from 330' to 280', INSPECTOR: A.M.
bentonite chips from 280' to 210, formation collapse from 210' to 155', formation
collapse from 128' to 26' and clean sand from 26' to surface.



PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 10-16-97 WELL NUMBER: MW-10M

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

REMARKS: _____ INSPECTOR: MP



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

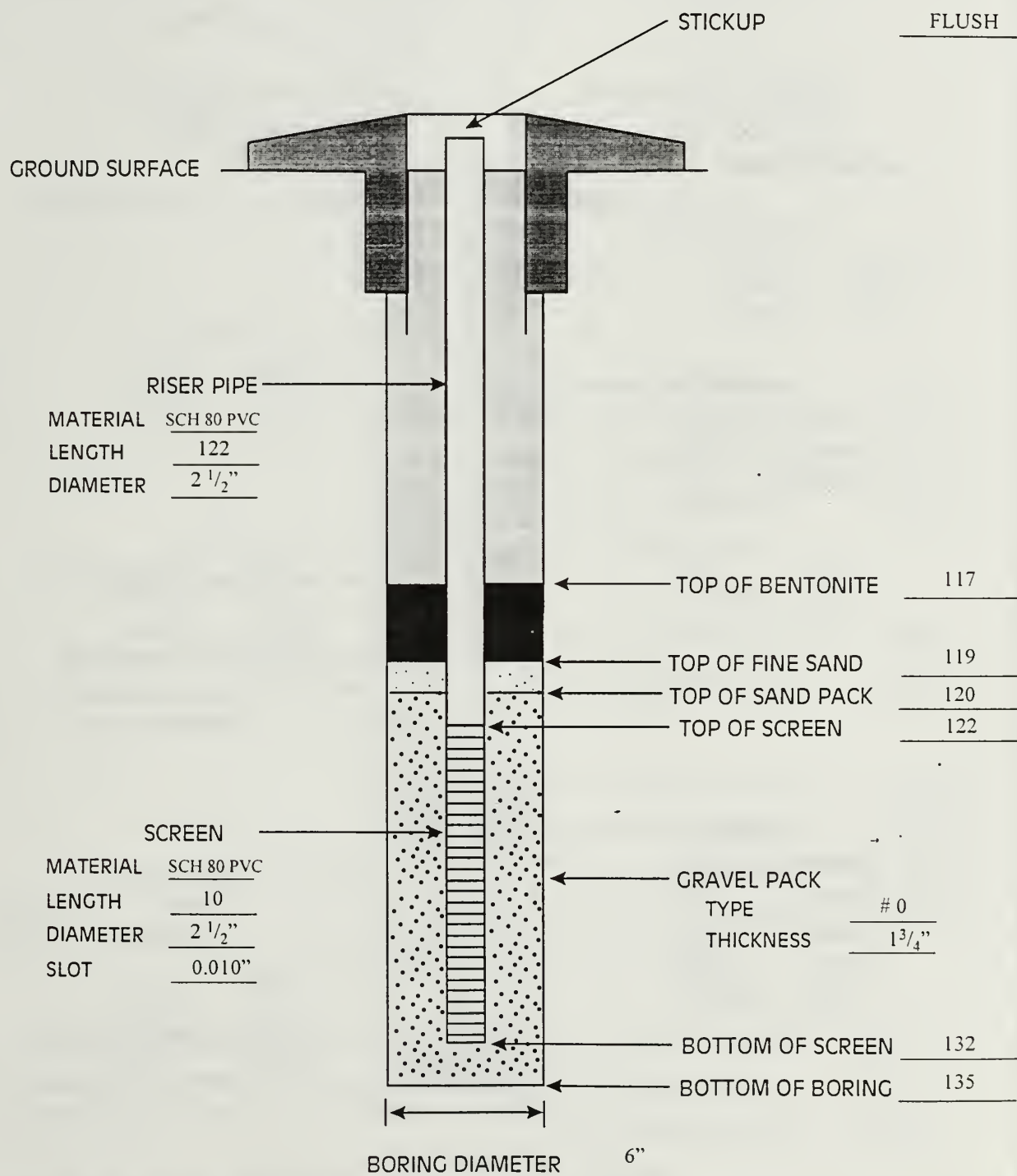
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 8-12-97 WELL NUMBER: MW-11S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

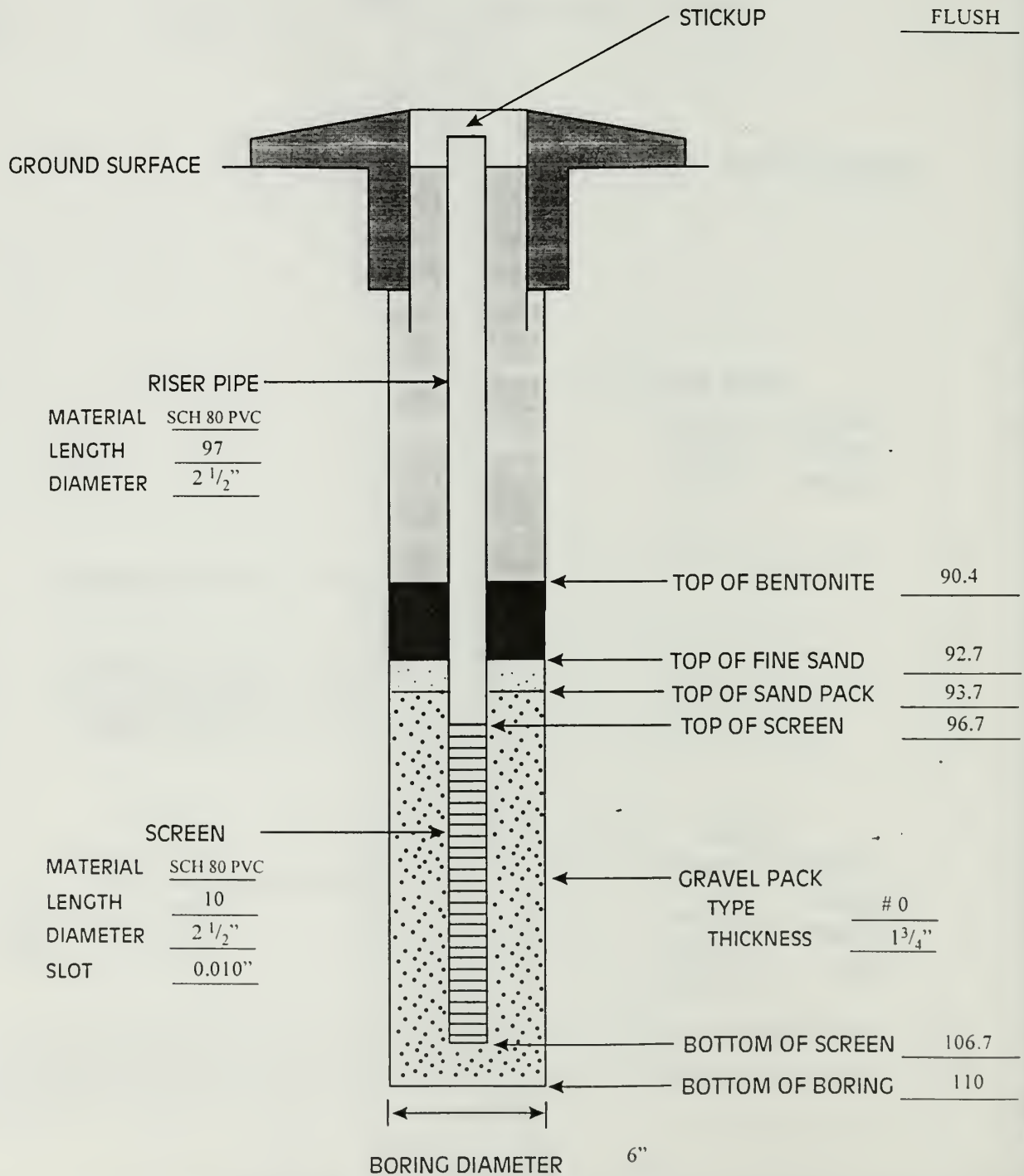
REMARKS: Formation collapse to 19 feet, clean sand from 19 to surface INSPECTOR: BS



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

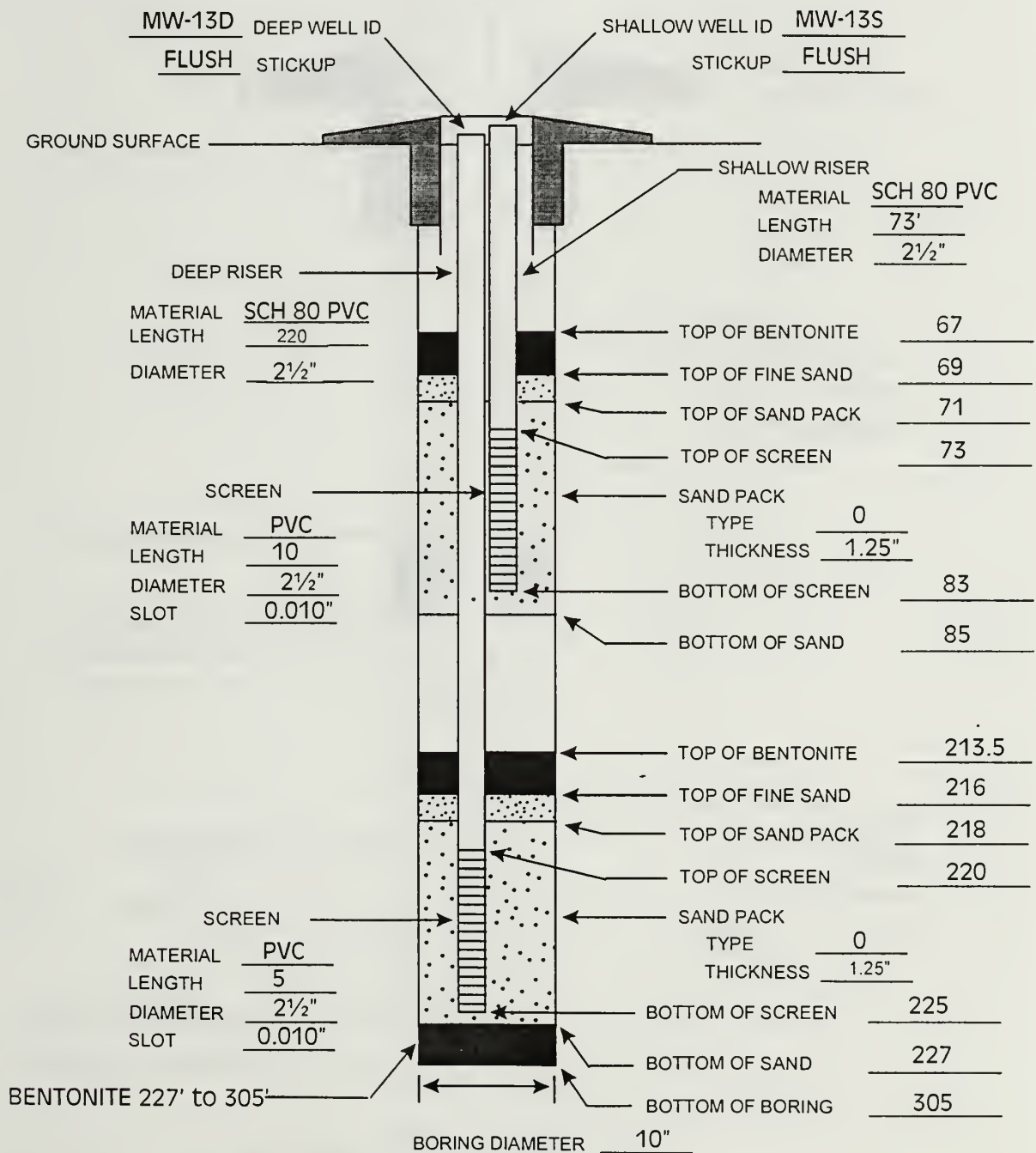
PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 8-7-97 WELL NUMBER: MW-12S
 PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER
 REMARKS: Formation collapse to 36 feet, clean sand from 36 to surface INSPECTOR: BS



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

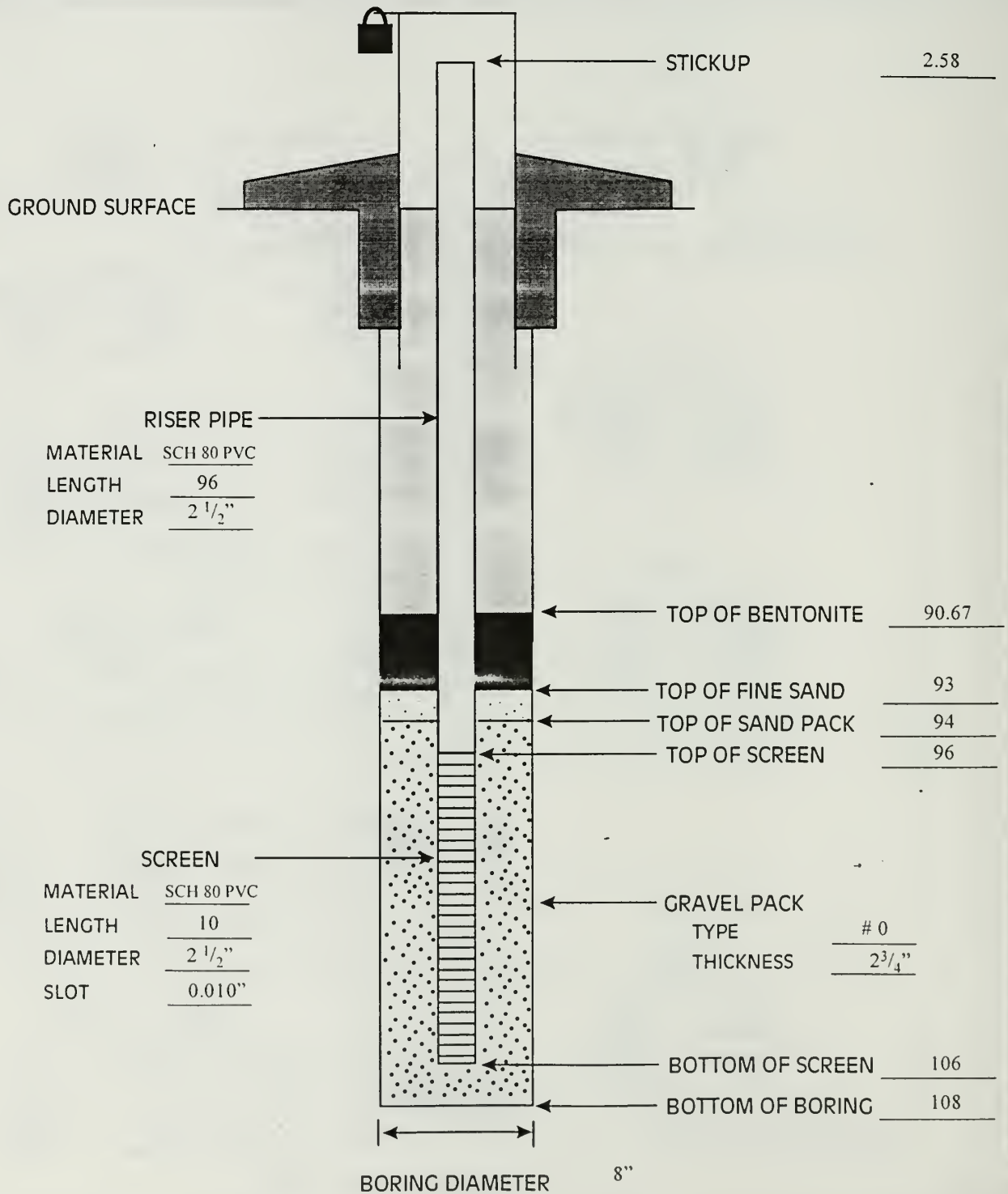
Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 11-4-97 WELL NUMBER: MW-13S&D
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic
 REMARKS: Bedrock at 288', Formation Collapse from 220' to 85' and 67' to 20' INSPECTOR: HK



WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 7-28-97 WELL NUMBER: MW-14S
 PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER
 REMARKS: Formation collapse to 40 feet, grout from 40 to 20, and clean sand from 20 to surface INSPECTOR: JS



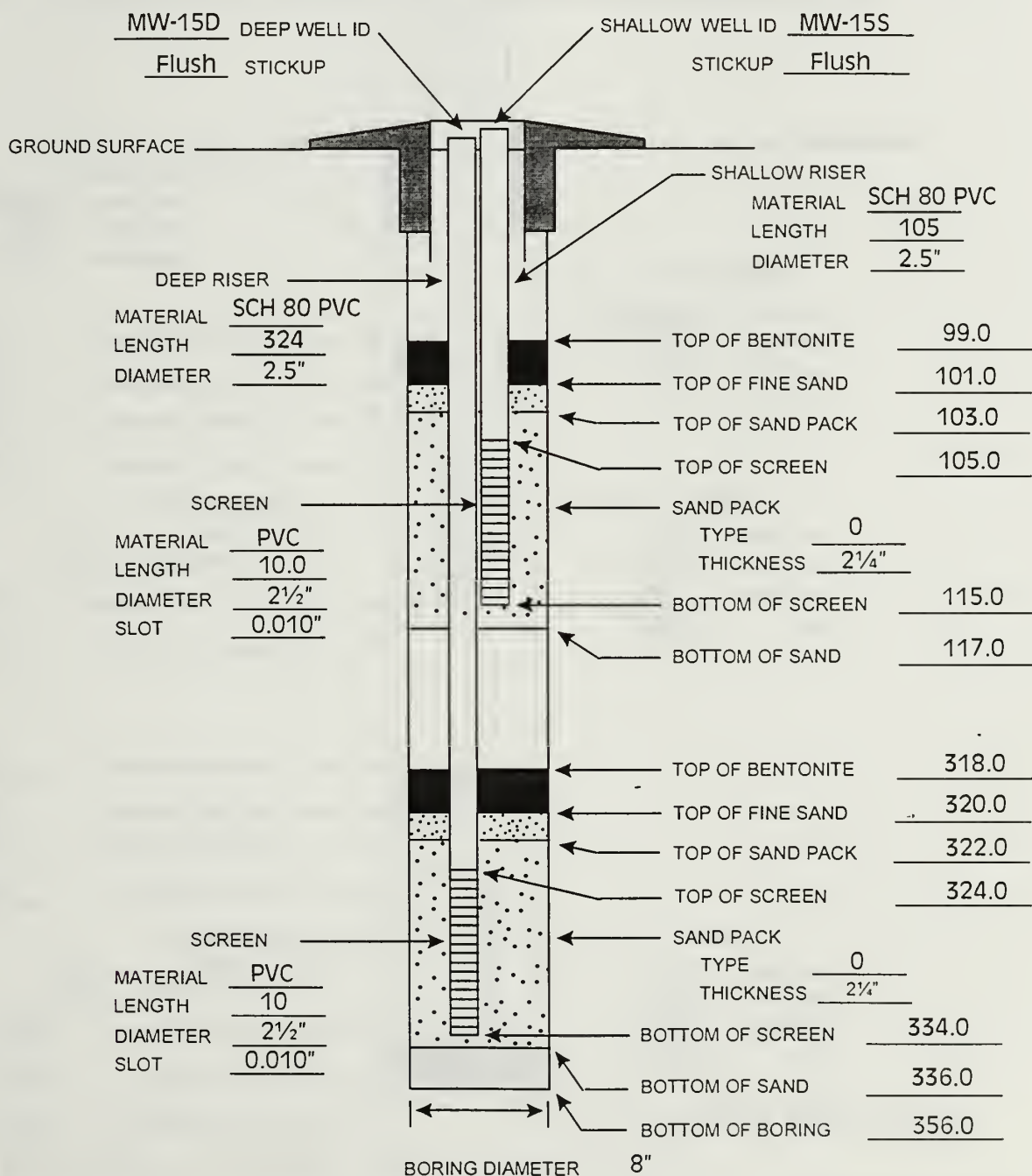
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9/18/97 WELL NUMBER: MW-15S&D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

REMARKS: Clean sand backfill 0-30 feet. Formation collapse from 30-99 feet and 117-318 feet. Bentonite from 336-356 feet. INSPECTOR: M.P.



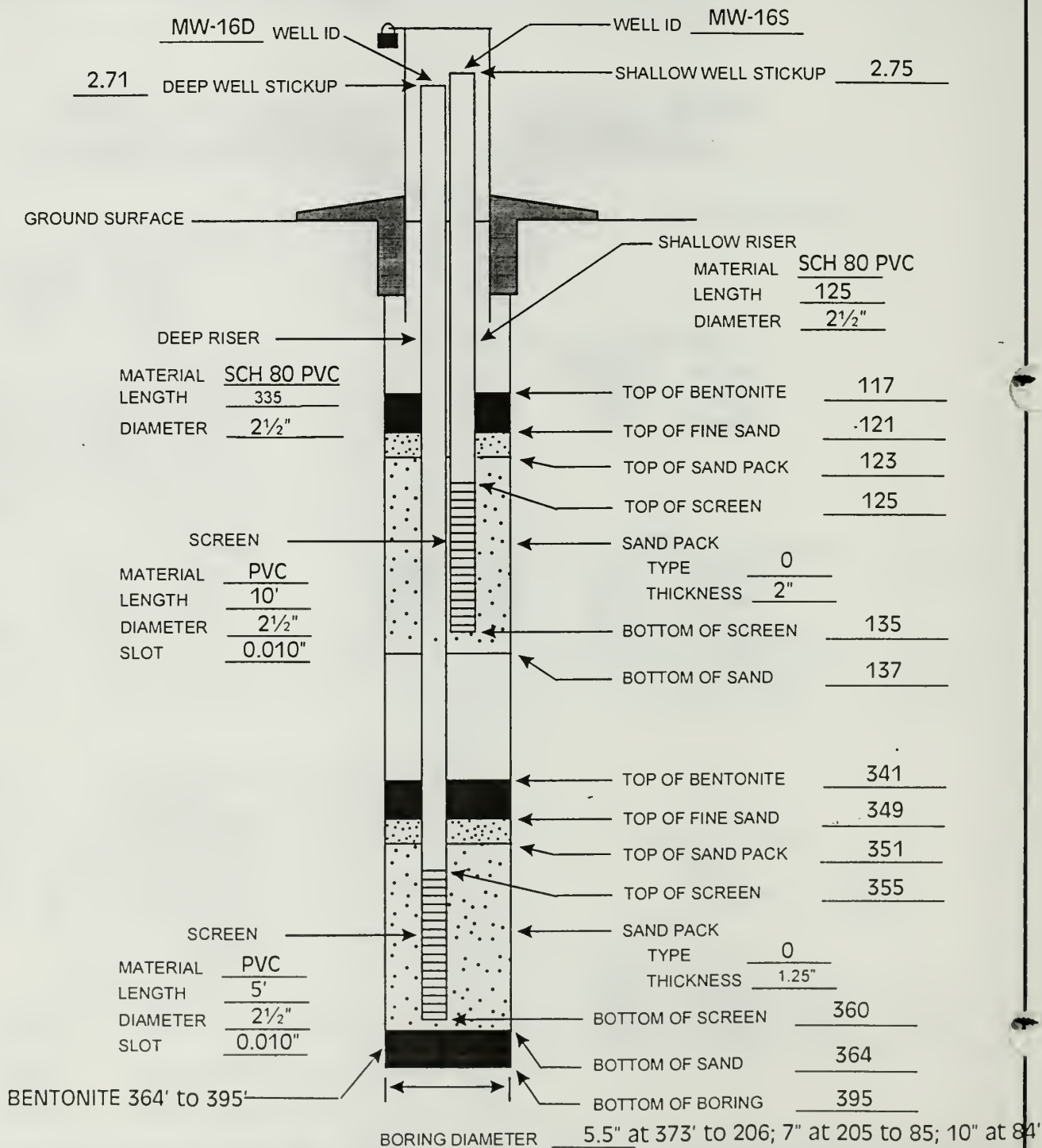
OGDEN

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 11-4-97 WELL NUMBER: MW-16S&D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

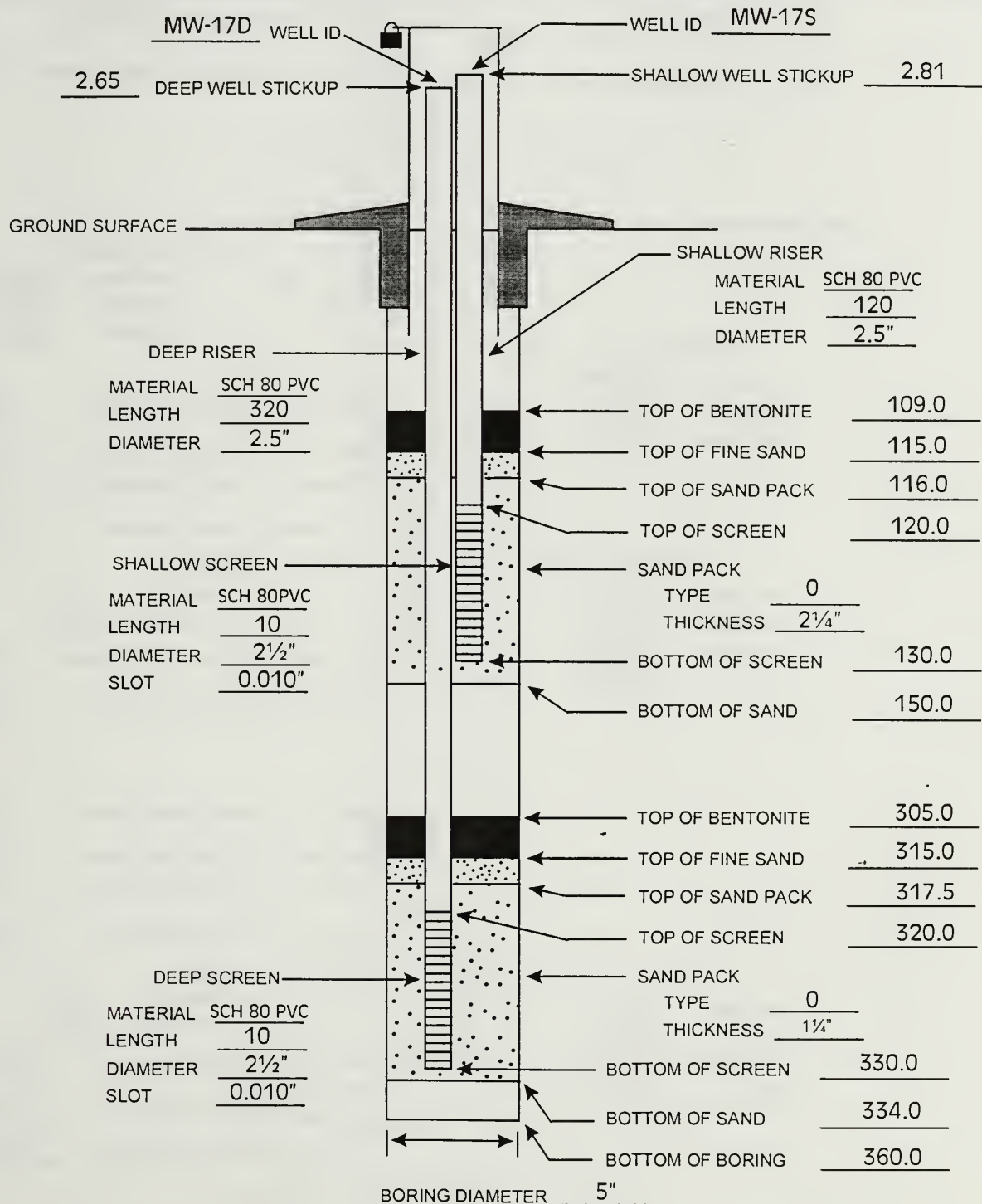
REMARKS: Formation collapse from 348' to 330', 290' to 275', 265' to 240', and 215' to 145'. INSPECTOR: HK
Bentonite chips from 330' to 288', 274' to 265', and 241' to 213'.



ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 8/27/97 WELL NUMBER: MW-17S&D
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic
 REMARKS: clean sand backfill 0-53 feet. Bentonite from 232-242 feet and 305-315 feet. INSPECTOR: A.M.

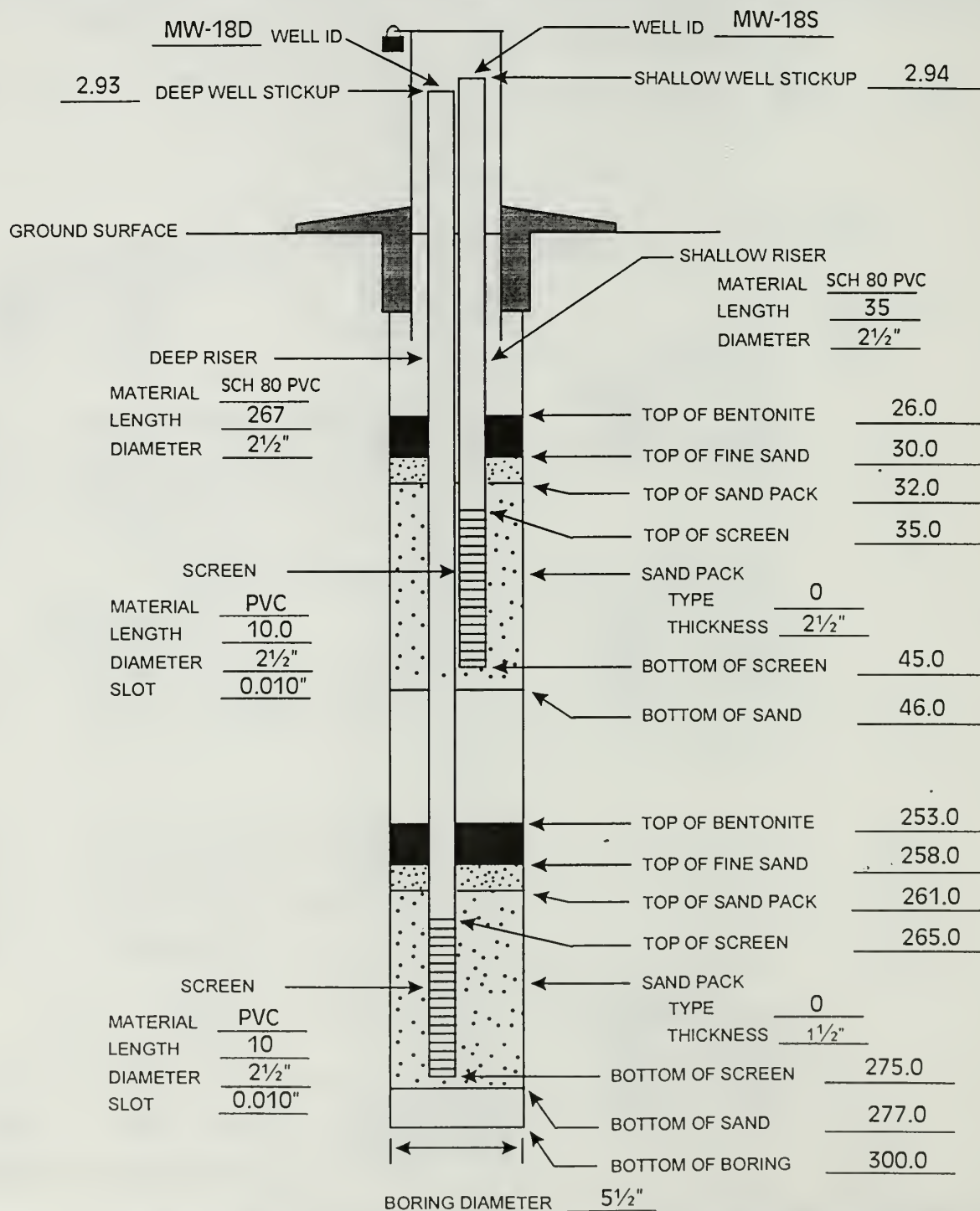


Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9/9/97 WELL NUMBER: MW-18S&D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

REMARKS: Bentonite chips from 300' to 277', formation collapse from 253' to 205', INSPECTOR: H.K.
bentonite chips from 185' to 205', formation collapse from 46' to 185', formation
collapse from 26' to surface.

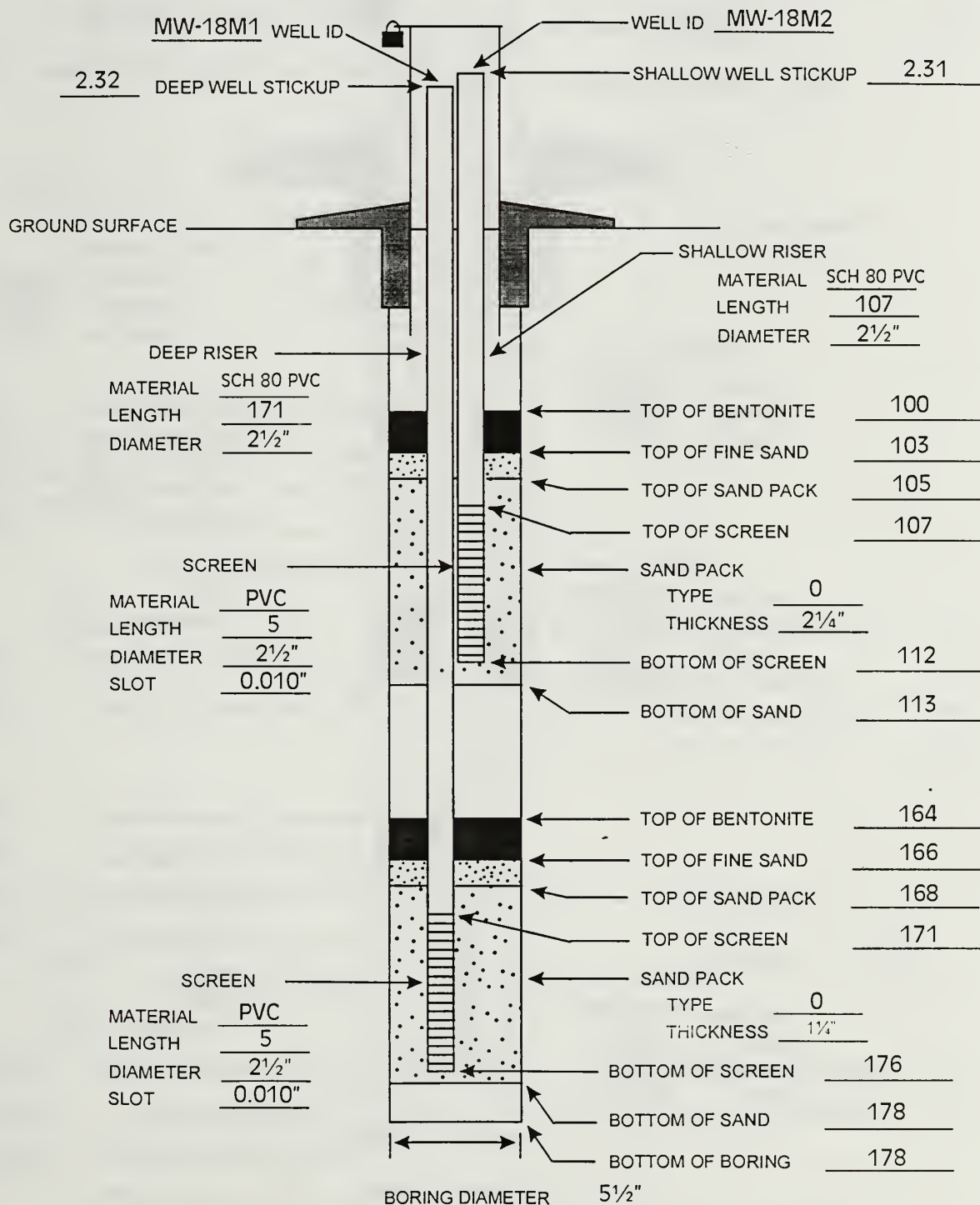


Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 11/20/97 WELL NUMBER: MW-18M1&M2

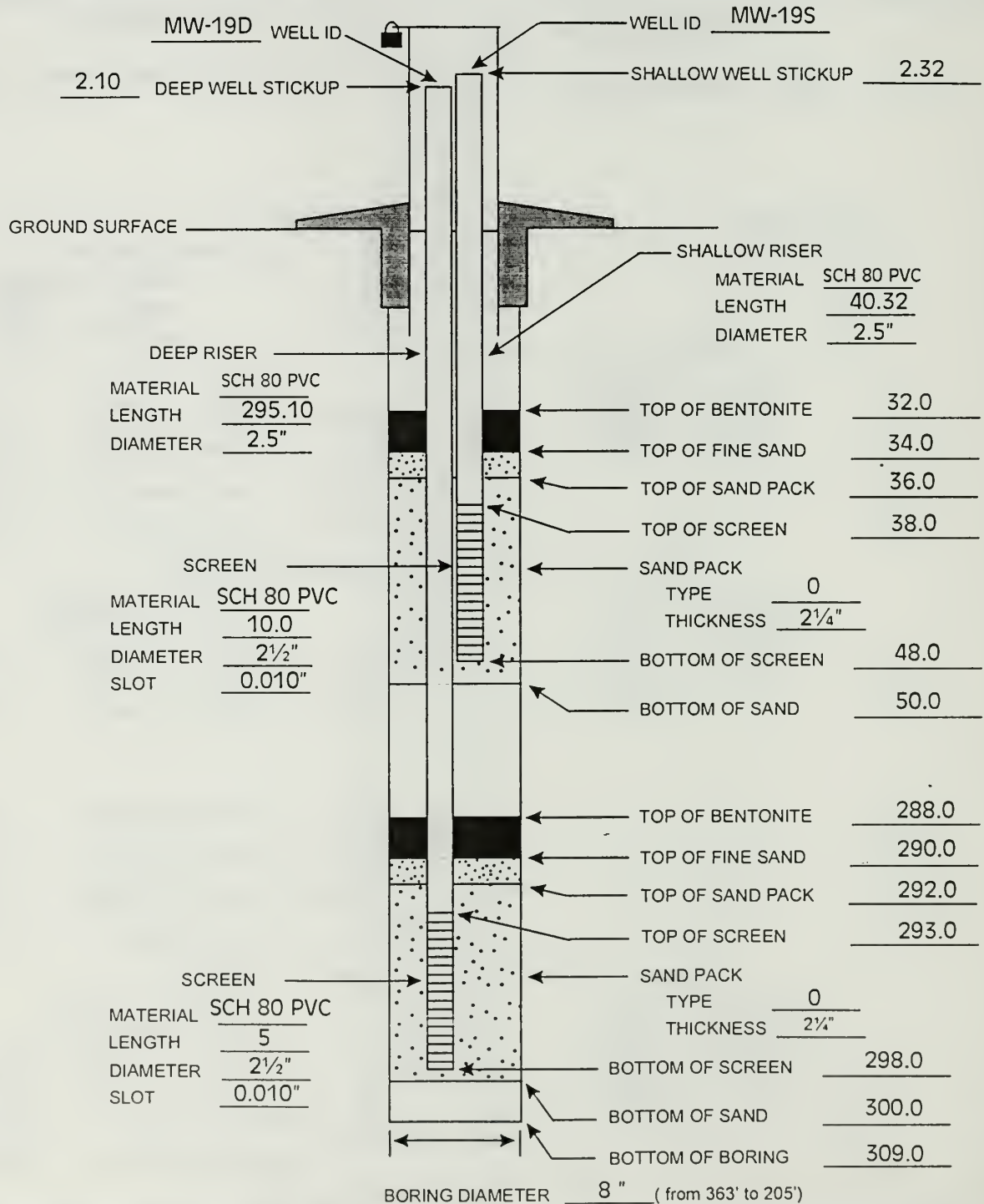
PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

REMARKS: _____ INSPECTOR: F.E.



Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 2/23/98 WELL NUMBER: MW-19S&D
 PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber
 REMARKS: _____ INSPECTOR: M.P.

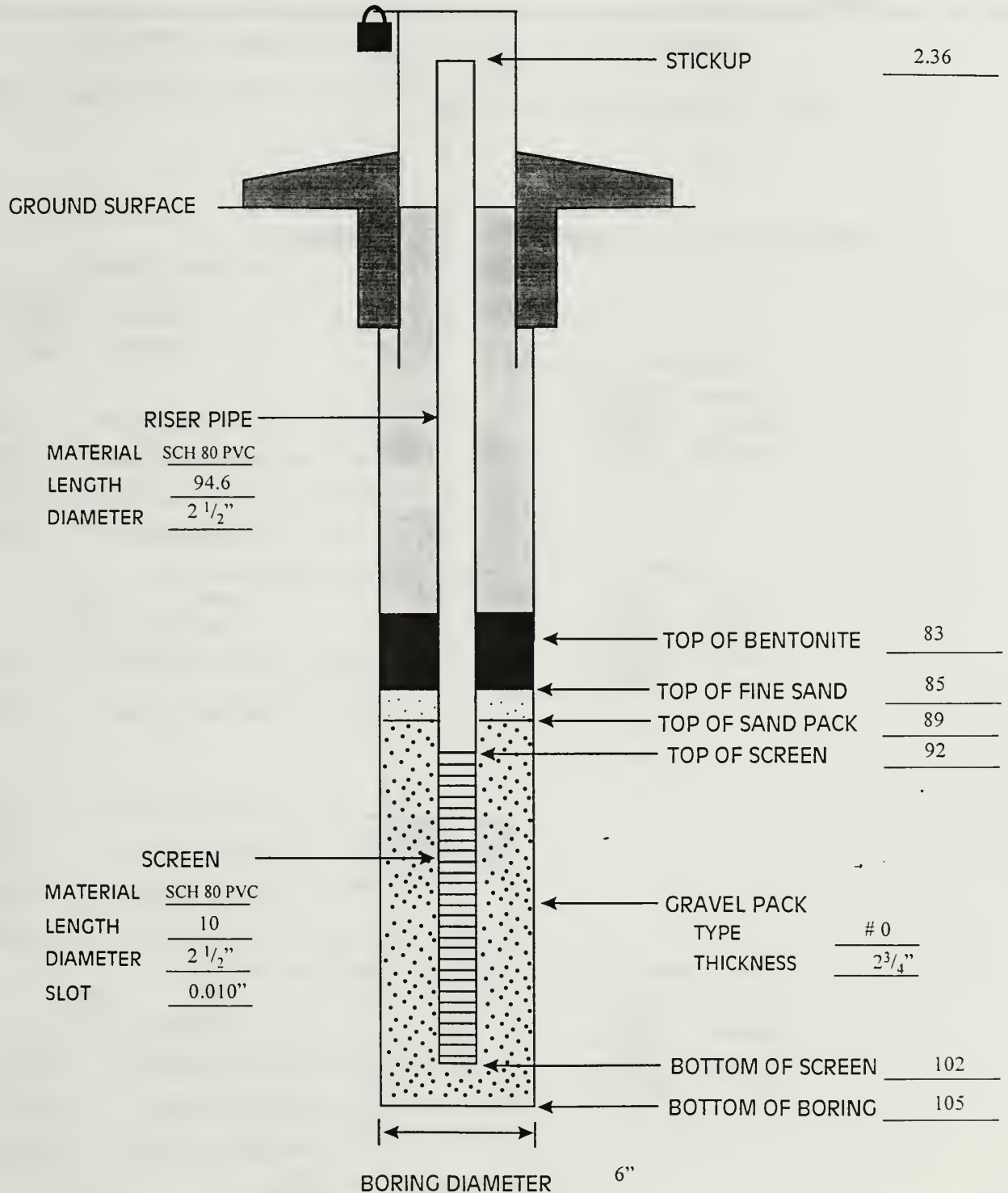


WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9-25-97 WELL NUMBER: MW-20S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: SONIC

REMARKS: Formation collapse from 102-105 feet. INSPECTOR: RP



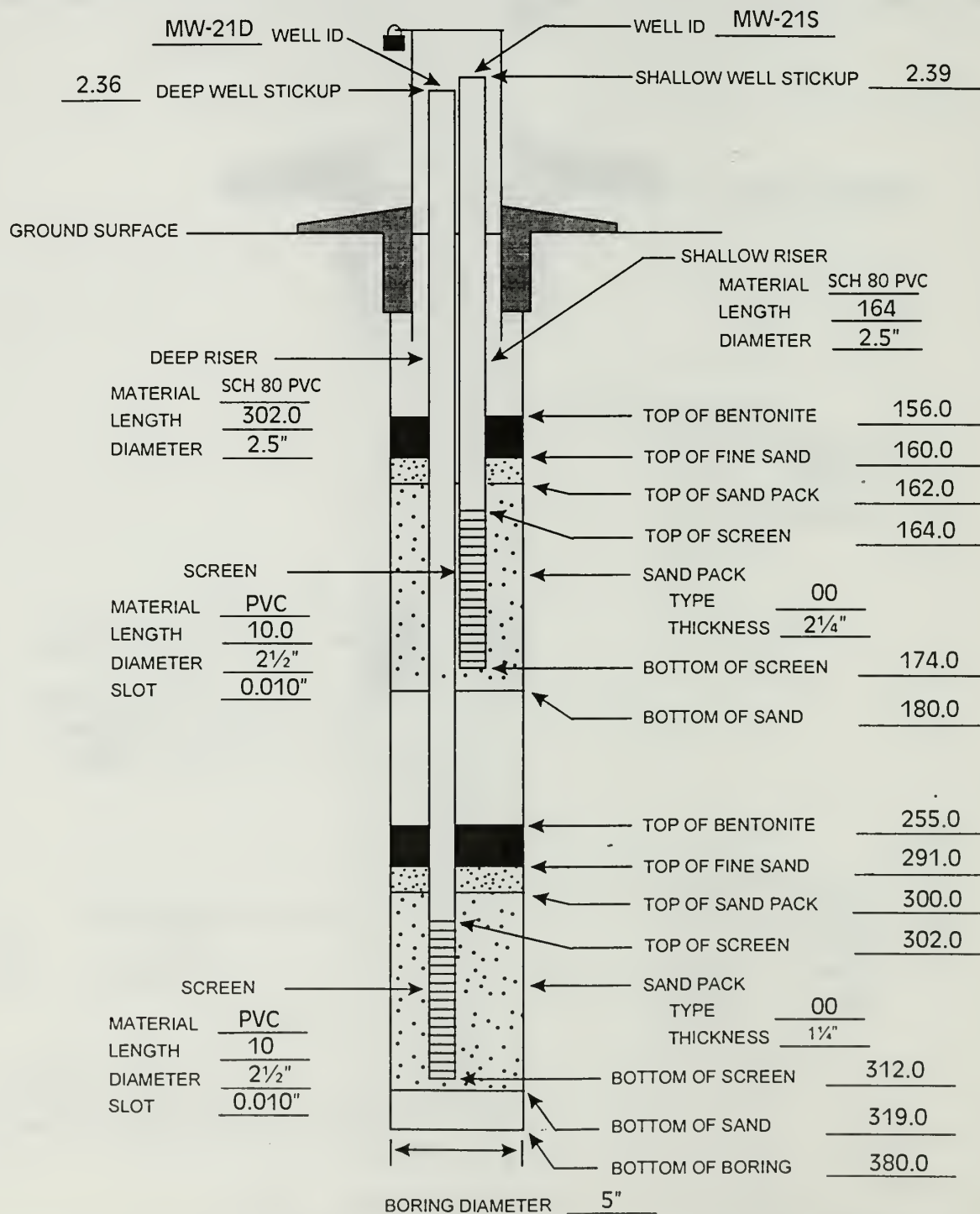
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9/22/97 WELL NUMBER: MW-21S&D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

REMARKS: Bentonite chips from 365' to 319' and from 298' to 255, formation collapse from 255' to 178' , formation collapse from 180' to 156' and clean sand from 156' to surface. INSPECTOR: A.M.

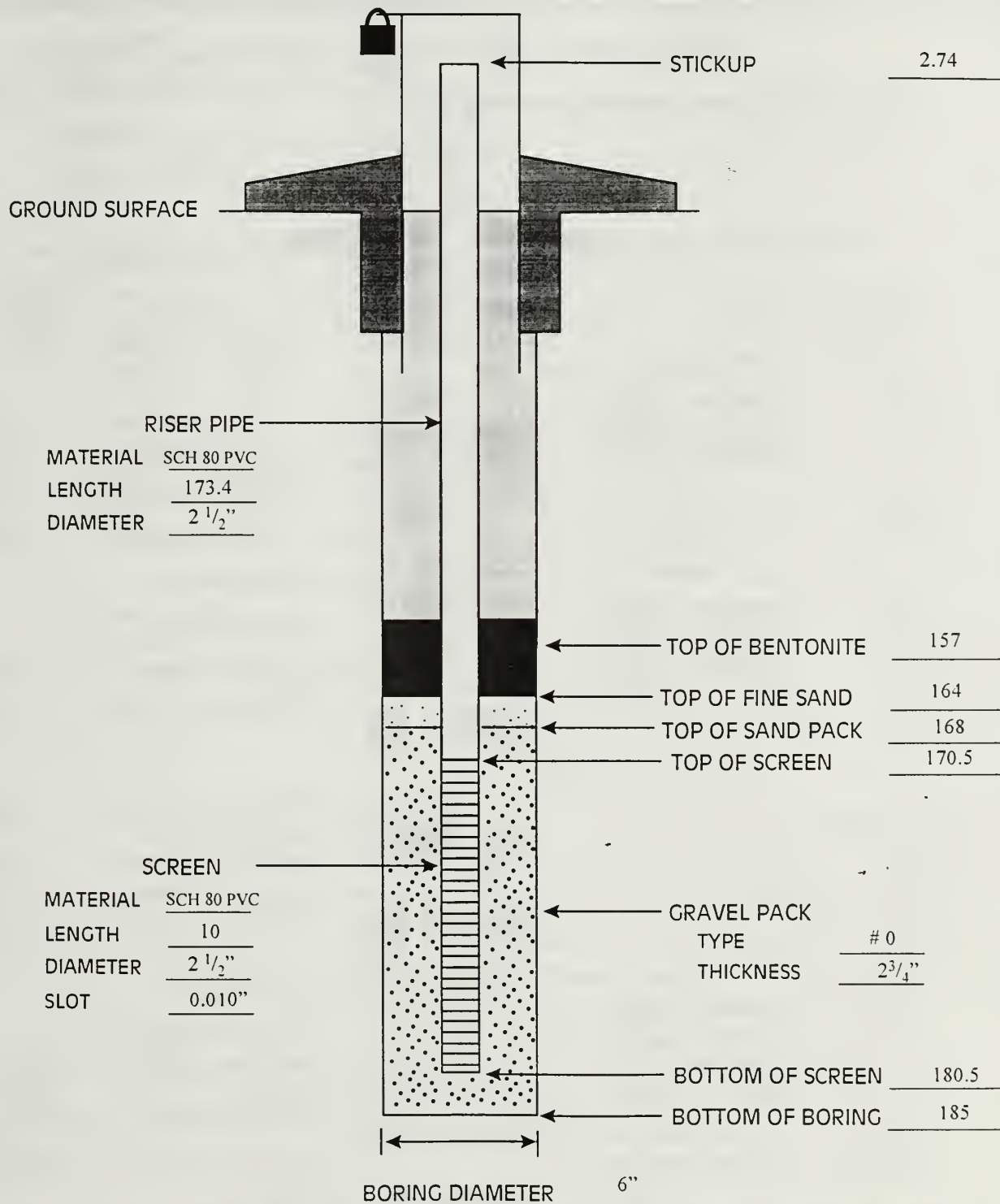


WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9-24-97 WELL NUMBER: MW-22S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: Sonic

REMARKS: Formation collapse from 185' to 181' INSPECTOR: RP



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

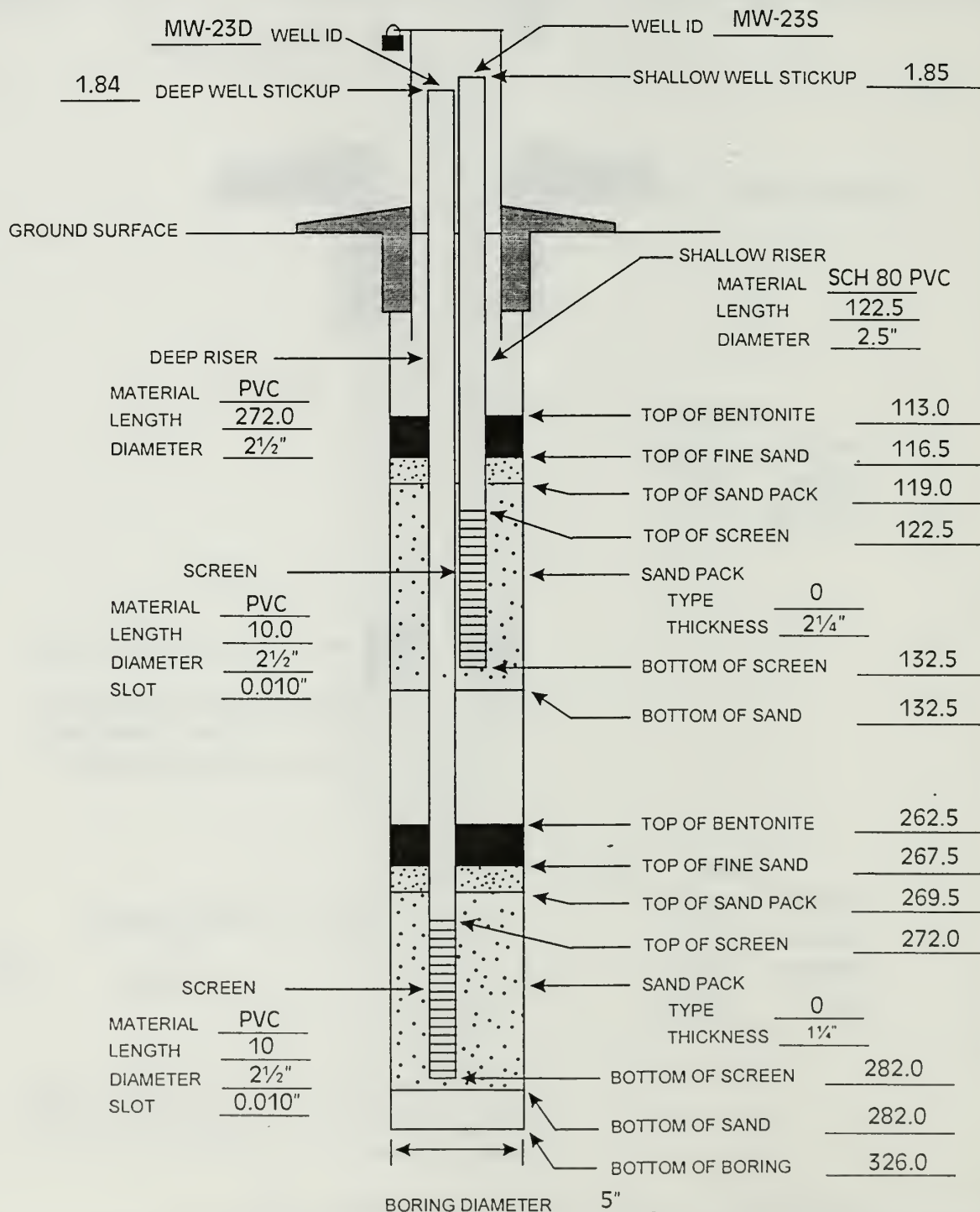
OGDEN

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 7/29/97 WELL NUMBER: MW-23S&D

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

REMARKS: Bentonite chips from 255' to 235' and 326' to 284'. Formation collapse from 262.5' to 255', 235' to 132.5', and 113' to 33'. Clean sand from 33' to the surface INSPECTOR: A.M.



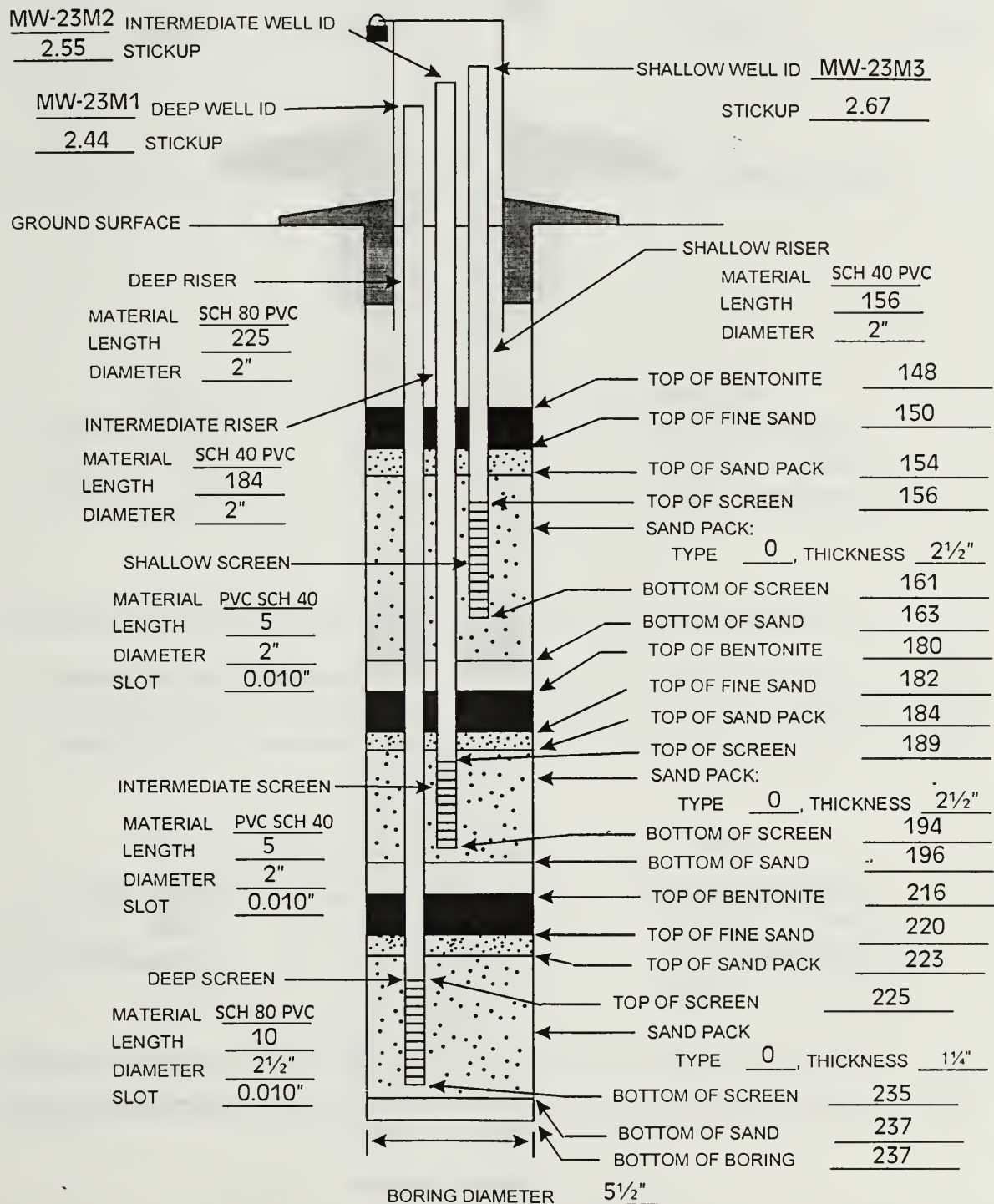
ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

Well Construction Diagram

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9/17/97 WELL NUMBER: MW-23M1,M2,M3

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Sonic

REMARKS: Formation collapse from 216' to 196, from 180' to 163', from 148' to 115', clean sand from 115 to surface. INSPECTOR: H.K.

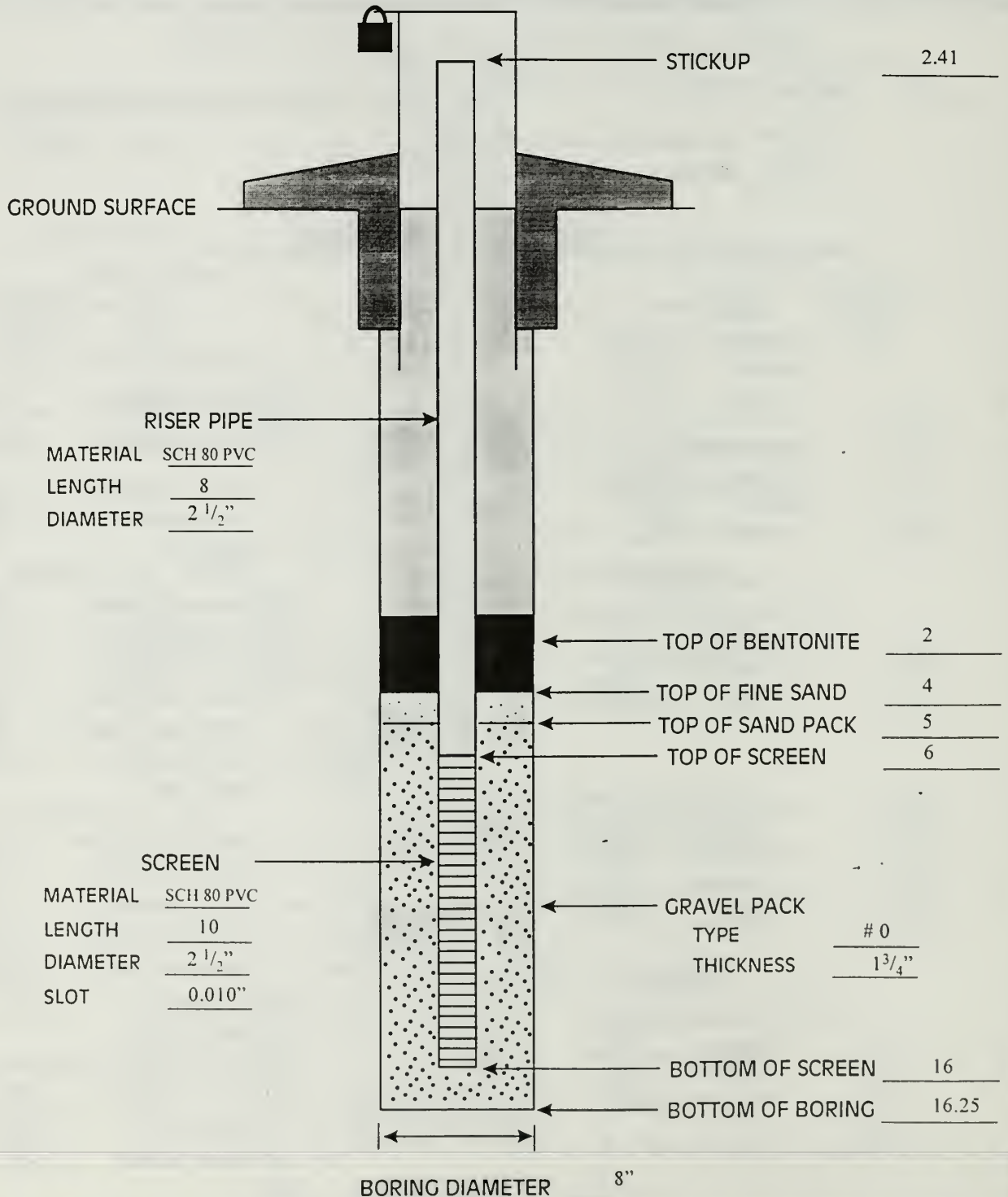


WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 10-16-97 WELL NUMBER: MW-24S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

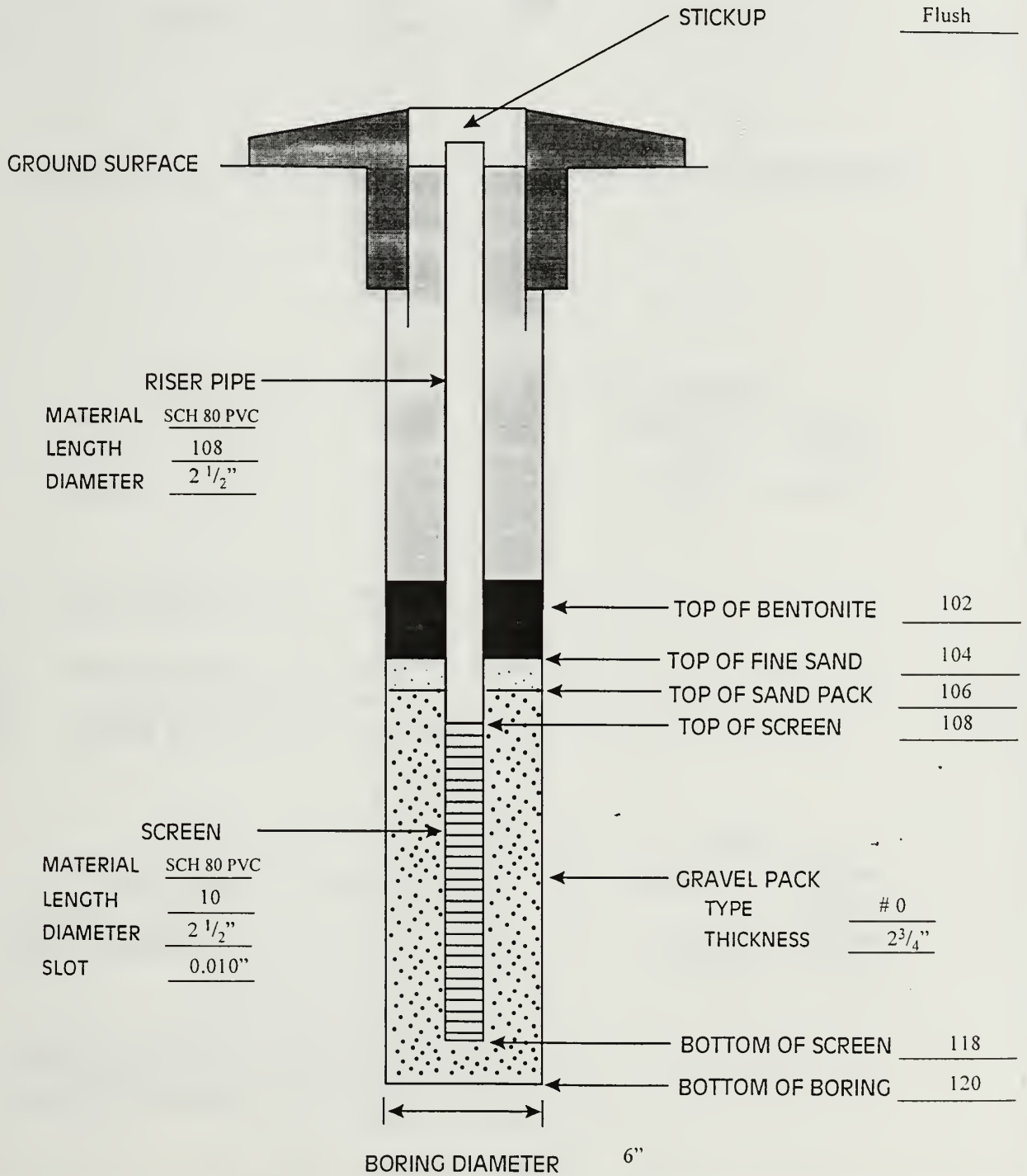
REMARKS: _____ INSPECTOR: MP



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

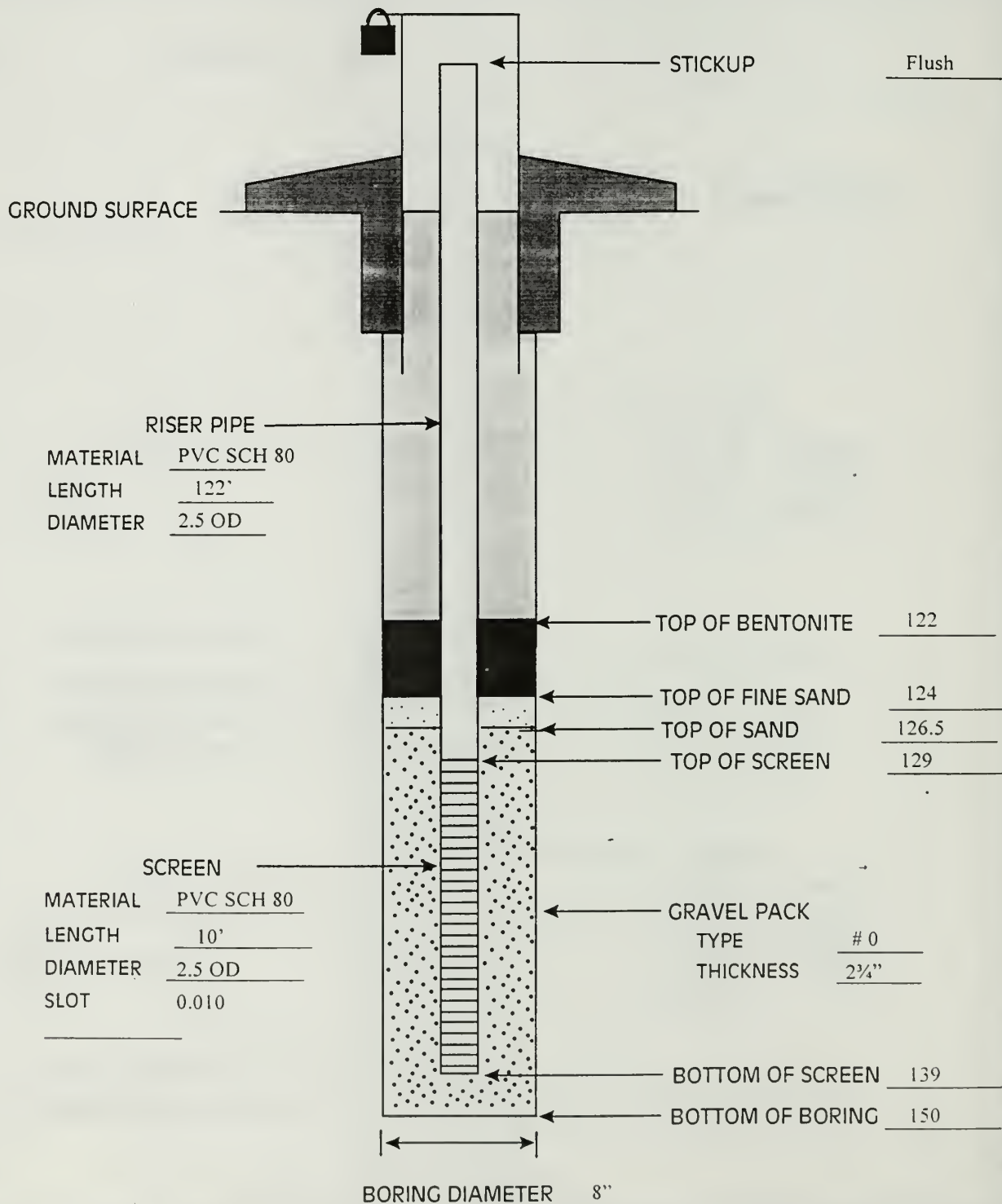
PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 9-23-97 WELL NUMBER: MW-25S
 PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER
 REMARKS: _____ INSPECTOR: MP



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR DATE INSTALLED: 1/16/98 WELL NUMBER: MW-26
 PROJECT NUMBER: 313000103 DRILLING COMPANY: D.L. Maher METHOD: Dual Air Rotary
 REMARKS: Formation collapse from 150' to 139.5' and from 122' to 57'. Clean sand from 57' to
ground surface. INSPECTOR: BH

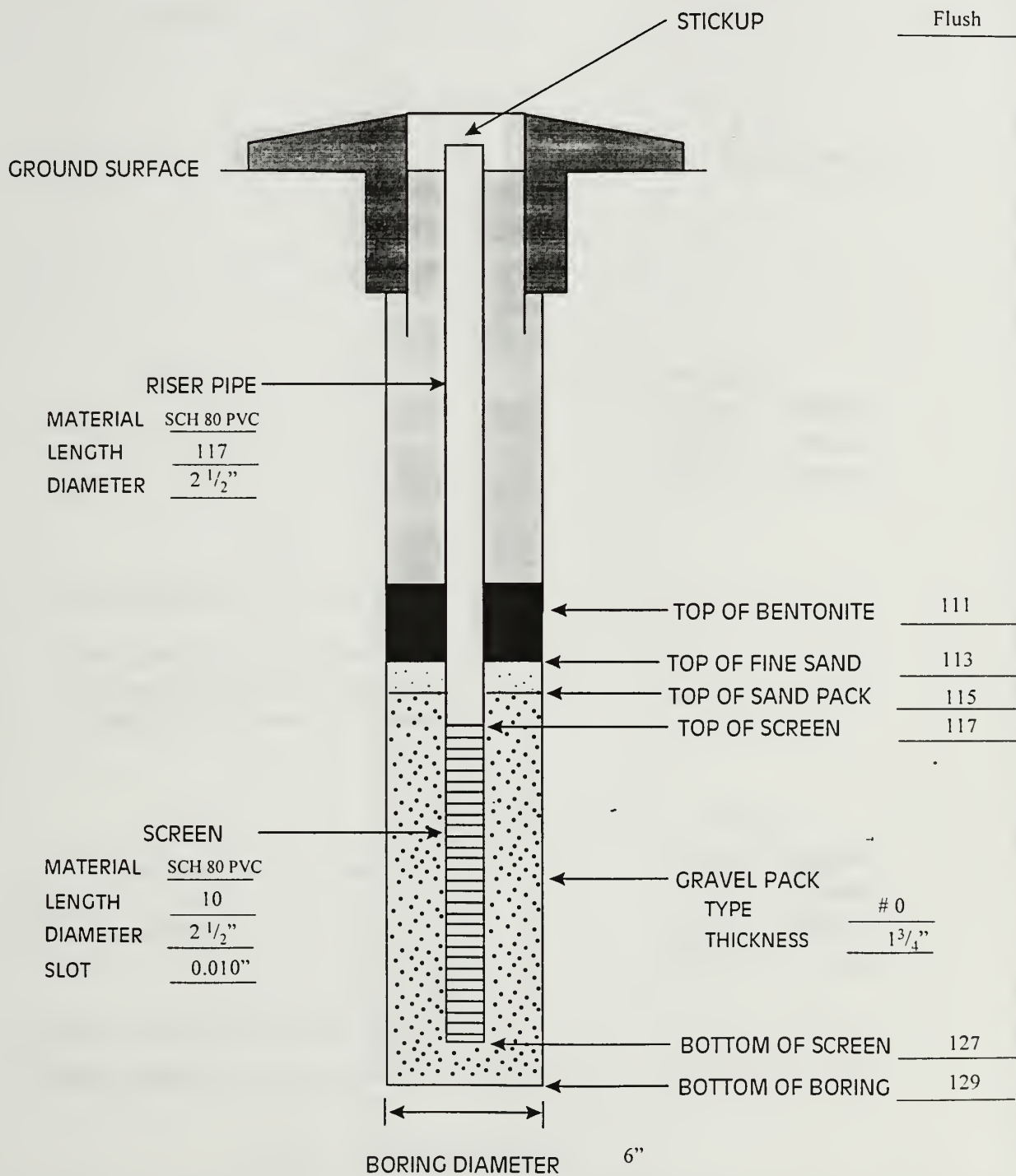


NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 10-7-97 WELL NUMBER: MW-27S
PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER
REMARKS: _____ INSPECTOR: MP



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

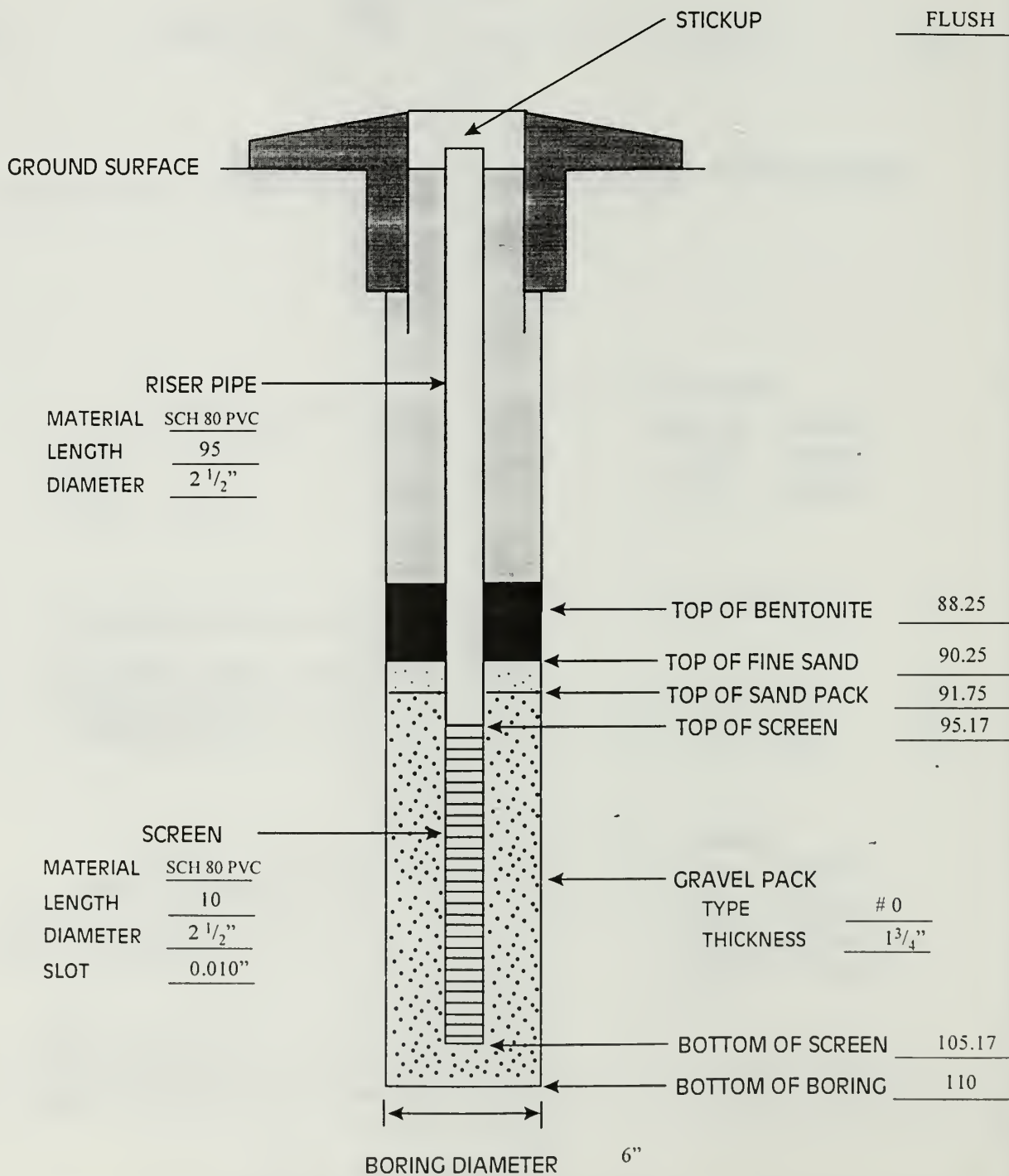


WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 7-30-97 WELL NUMBER: MW-28S

PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER

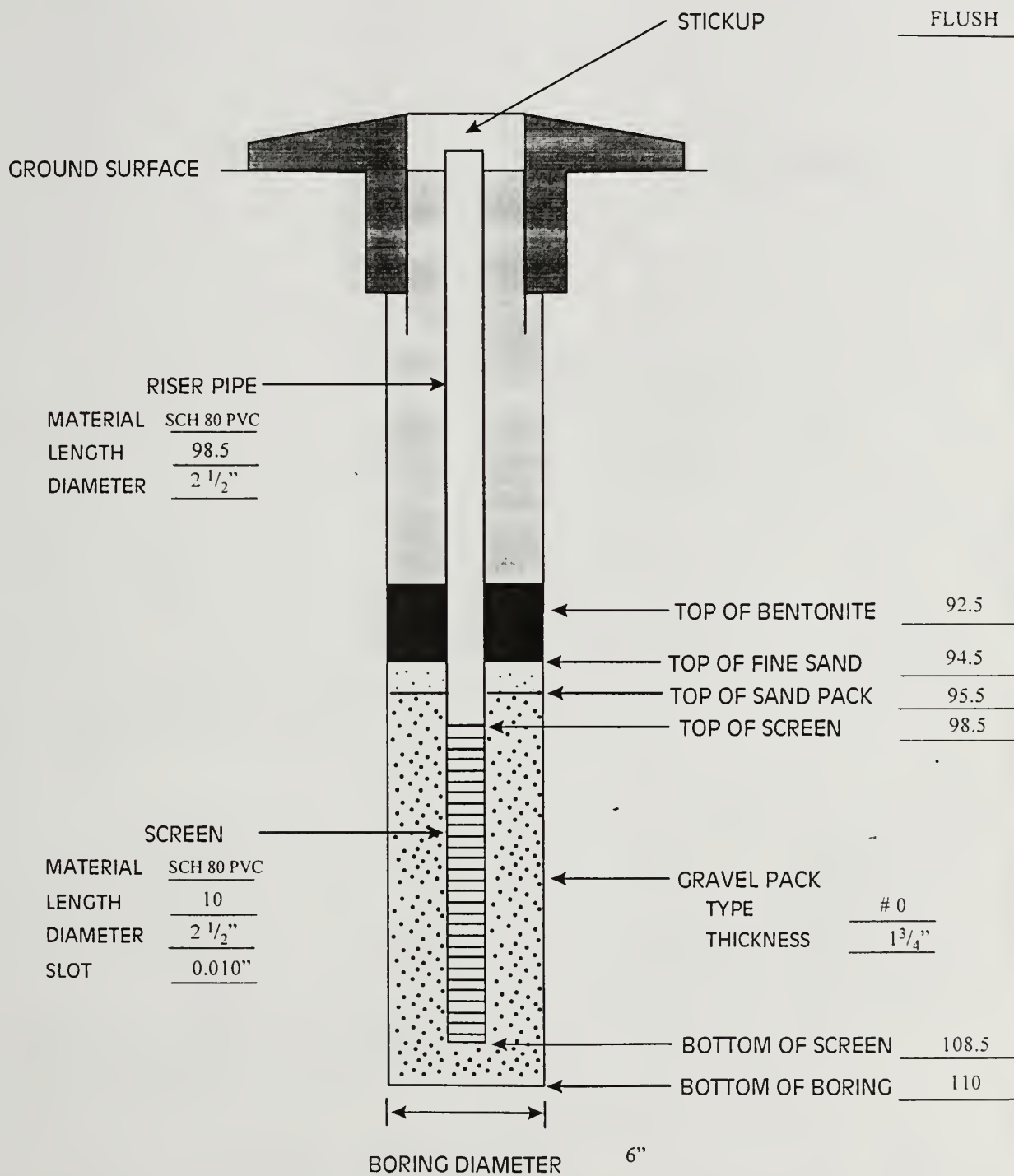
REMARKS: Formation collapse to 33 feet, clean sand from 33 to surface INSPECTOR: BS



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR IMPACT AREA DATE INSTALLED: 8-1-97 WELL NUMBER: MW-29S
 PROJECT NUMBER: 313000103 DRILLING COMPANY: MAHER METHOD: BARBER
 REMARKS: Formation collapse to 39 feet, clean sand from 39 to surface INSPECTOR: JS



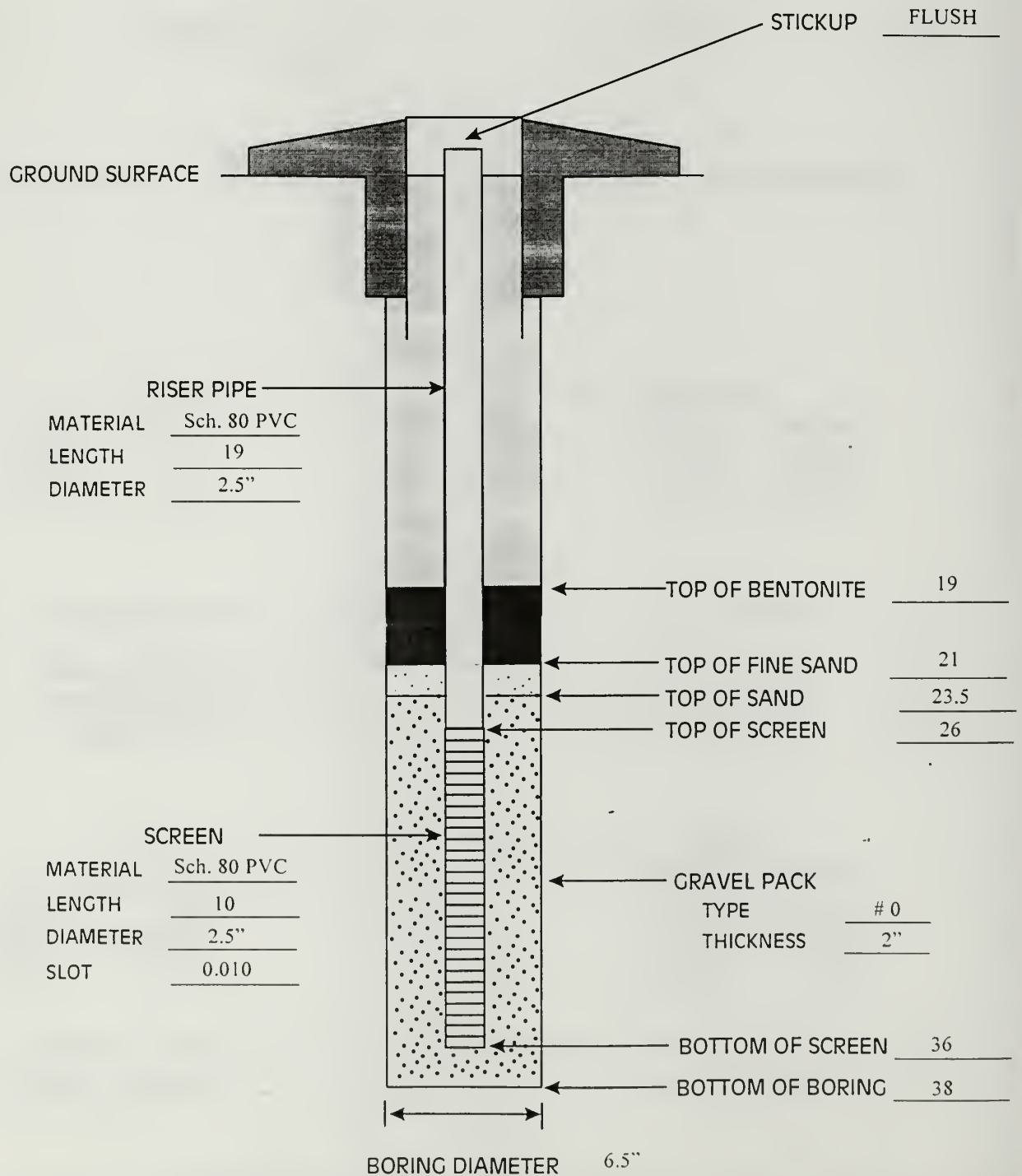
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: MMR DATE INSTALLED: 10/28/97 WELL NUMBER: MW-30S

PROJECT NUMBER: 313000103 DRILLING COMPANY: Maher METHOD: Barber

REMARKS: Formation collapse from 19' to 5.5', clean sand from 5.5' to surface INSPECTOR: M.Patel



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-18-97 WELL NUMBER: 15
 PROJECT NUMBER: 313000103 DEVELOPER: W.G.
 REMARKS: _____

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT _____
 SUBMERSIBLE PUMP _____
 OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL:
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 126.30 (ft)
 WATER LEVEL (h) 115.79 (ft)
 WATER COLUMN (b-h) 10.51 (ft)
 WELL VOLUME 2.6 (gal)

DEVELOPMENT LOG:		WATER QUALITY:				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9-23-97	5 gal.	7.25	94.5 $\mu S/cm$	Off Scale	15.1°C	Pump rate @ 0.3 GPM
"	15 gal.	7.44	89.9 $\mu S/cm$	"	15.6°C	
"	25 gal.	7.24	86.3 $\mu S/cm$	"	14.8°C	
"	35 gal.	7.02	89.8 $\mu S/cm$	"	16.7°C	
"	60 gal.	6.69	64.9 $\mu S/cm$	239 NTU	12.8°C	Switch to Grundfos Pump rate @ 1.3 GPM
"	85 gal.	6.37	63.7 $\mu S/cm$	158 NTU	12.6°C	
"	100 gal.	6.48	61.2 $\mu S/cm$	111 NTU	12.5°C	
"	115	6.21	60.6 $\mu S/cm$	79.4 NTU	12.7°C	
"	150	6.36	59.2 $\mu S/cm$	57.9 NTU	12.1°C	
"	165	6.41	58.2 $\mu S/cm$	50.1 NTU	12.2°C	

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/19/97 WELL NUMBER: 15

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim D. WG

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 126.30 (ft)

WATER LEVEL (h) 115.79 (ft)

WATER COLUMN (b-h) 10.51 (ft)

WELL VOLUME 2.6 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/23/97	180 gal	6.41	57.7 $\mu S/cm$	45.2 NTU	12.2°	clear
"	195 gal	6.03	57.2 $\mu S/cm$	41.3 NTU	12.2°	"
"	205 gal	6.05	56.6 $\mu S/cm$	36.3 NTU	12.2°	"
"	210 gal	6.06	56.2 $\mu S/cm$	34.7 NTU	12.2°	"
"	220 gal	6.06	55.4 $\mu S/cm$	33.9 NTU	12.2°	"

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-19-97 WELL NUMBER: 1D

PROJECT NUMBER: 313000103 DEVELOPER: W. G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT ☒

SUBMERSIBLE PUMP Groutless

OTHER Arch Well dev pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 300 (ft)

WATER LEVEL (h) 115.96 (ft)

WATER COLUMN (b-h) 184.04 (ft)

WELL VOLUME 46.01 (gal)

135.66

11.70

115.96

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/22/97	45 Gal	6.54	124.7 $\mu S/cm$	Off-Scale	10.3	Pumping Rate @ 260 ft / Grey
"	100 Gal	6.82	116.4 $\mu S/cm$	Off-Scale	10.5	"
"	150 Gal	6.86	115.9 $\mu S/cm$	"	10.4	"
"	190 Gal	6.79	117.4 $\mu S/cm$	698 NTU	10.4	"
"	250 Gal	6.72	116.1 $\mu S/cm$	787 NTU	10.8	"
"	295 Gal	6.99	116.3 $\mu S/cm$	672 NTU	10.9	"
"	345 Gal	7.13	114.0 $\mu S/cm$	505 NTU	10.7	"
"	390 Gal	7.09	115.4 $\mu S/cm$	503 NTU	10.7	Switched to Groutless pump
"	440 Gal	7.72	170.4 $\mu S/cm$	539 NTU	12.7	Switch to Arch Well Development pump.
"	490 Gal	7.06	123.0 $\mu S/cm$	523 NTU	11.9	



PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-19-97 WELL NUMBER: 1D

PROJECT NUMBER: 313 600103 DEVELOPER: W.G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCUATIONS:

$$3.14 * (d^2/4)FT * (b-h)FT * 7.48 = \underline{\hspace{2cm}} \text{ GAL}$$

OR FOR 2" WELL-

(b-h)FT * .16 = _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) _____ (in)

DEPTH OF WELL (b) _____ (ft)

WATER LEVEL (h) _____ (ft)

WATER COLUMN (b-h) _____ (ft)

WELL VOLUME _____ (gal)

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/19/97 WELL NUMBER: MW-1D

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: Cumulative Volume is for redevelopment total.

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK ☒

AIR LIFT ☒

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 = \text{GAL}$$

OR FOR 2" WELL-

$$\text{For 2.5" well: water column} \cdot .25 = \text{Vol.}$$

$$(b-h) \text{ FT} \cdot .16 = \text{GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 300' (ft)

WATER LEVEL (h) 117' (ft)

WATER COLUMN (b-h) 183' (ft)

WELL VOLUME 45.75 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10/14/97	10 gal	6.53	81.4 $\mu\text{S/cm}$	670 NTU	11.2°	Air lift (Evac) pump rate estimate 2.5 GPM
"	40 gal	6.82	83.0 $\mu\text{S/cm}$	420 NTU	11.1°	Light brown, Hazy
"	70 gal	6.82	83.2 $\mu\text{S/cm}$	405 NTU	11.5°	
"	110 gal	6.90	83.5 $\mu\text{S/cm}$	323 NTU	10.9°	
"	150 gal	6.85	82.1 $\mu\text{S/cm}$	305 NTU	11.2°	Well is surged at 180 gal
"	200 gal	6.89	86.3 $\mu\text{S/cm}$	Off Scale	11.7°	Estimated pump rate 3.5 GPM.
"	250 gal	6.96	87.7 $\mu\text{S/cm}$	525 NTU	11.8°	
"	300 gal	7.05	86.2 $\mu\text{S/cm}$	345 NTU	11.2°	Hazy
"	350 gal	7.22	85.8 $\mu\text{S/cm}$	820 NTU	11.1°	Well is surged at 310 gal.
"	400 gal	6.66	85.9 $\mu\text{S/cm}$	490 NTU	11.1°	

PROJECT NAME: M.M.R. DATE INSTALLED: 19 Dec 97 WELL NUMBER: MW 1 M1
 PROJECT NUMBER: 313000103 DEVELOPER: RG
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVITC

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 225 (ft)

WATER LEVEL (h) 116.38 (ft)

WATER COLUMN (b-h) 108.62 (ft)

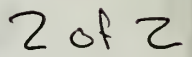
WELL VOLUME 27 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COLOR
12 Jan 98	30	7.66	187	335	7.9	cloudy/gray
"	50	7.74	187	142	8.1	clearing up
"	75	7.73	188	1085	8.8	cloudy/gray
"	100	7.65	188	185	8.9	clearing up
"	125	7.63	189	064	8.9	fairly lucid
"	150	7.66	189	052	8.9	"
"	175	7.58	187	046	8.9	slightly cloudy
"	200	7.38	183	046	8.9	"
"	225	7.62	183	038	9.0	"
"	250	7.56	183	029	8.9	clear



REMARKS:

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-19-87 WELL NUMBER: 1I
 PROJECT NUMBER: 313000103 DEVELOPER: W.G. MW-1M2
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____
EVAC Air lift

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in) 135.43

DEPTH OF WELL (b) 165 (ft)

WATER LEVEL (h) 115.73 (ft)

WATER COLUMN (b-h) 49.27 (ft)

WELL VOLUME 12.3 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/22/97	20 Gal	7.57	110.3 $\mu S/cm$	off-Scale	13.5°	Pumping Rate @ 0.25 GPM/Brown
"	40 Gal	7.27	107.4 $\mu S/cm$	"	13.2°	"
"	60 Gal	7.31	90.8 $\mu S/cm$	"	12.6°	"
9/23/97	75 Gal	6.63	124.6 $\mu S/cm$	783 NTU	14.9°	Pumping Rate @ 0.4 GPM/Grey
"	90 Gal.	7.15	68.8 $\mu S/cm$	479 NTU	14.1°	
"	112 Gal.	7.05	66.4 $\mu S/cm$	253 NTU	14.4°	
"	122 Gal.	6.92	66.4 $\mu S/cm$	177 NTU	14.4°	
"	132 Gal	6.84	62.3 $\mu S/cm$	212 NTU	13.8°	
"	150 Gal.	6.98	60.0 $\mu S/cm$	117 NTU	13.7°	
"	160 Gal.	6.89	58.1 $\mu S/cm$	87.6 NTU	13.4°	

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-19-97 WELL NUMBER: 1 I

PROJECT NUMBER: 313600103 DEVELOPER: Tim D. W.G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Evac/Air lift

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 165 (ft)

WATER LEVEL (h) 115.73 (ft)

WATER COLUMN (b-h) 49.27 (ft)

WELL VOLUME 12.3 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/23/97	170	6.74	57.4 $\mu S/cm$	76.3 NTU	13.4°C	
"	177	6.75	62.1 $\mu S/cm$	255 NTU	13.5°	
"	195	6.67	56.2 $\mu S/cm$	80.3	13.1°	
"	205	6.64	55.4 $\mu S/cm$	63.3	13.1°	
"	215	6.58	56.0 $\mu S/cm$	65.4	12.8°	
"	225	6.77	55.1 $\mu S/cm$	63.6	12.8°	

PROJECT NAME: MMR DATE INSTALLED: 28 Oct 97 WELL NUMBER: MWD 5

PROJECT NUMBER: 313000003 DEVELOPER: RC

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER Arch Pump

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 147 (ft)

WATER LEVEL (h) 138.22 (ft)

WATER COLUMN (b-h) 8.78 (ft)

WELL VOLUME 2.19 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10 Nov 97	8	7.95	442	off scale	12.3	Brown heavy silt
11 Nov 97	12	7.95	453	"	11.6	"
12 Nov 97	16	7.16	430	958	10.2	"
"	18	8.25	445	912	11.4 12.0	still Brown less silt
"	22	7.40	510	888 869	12.0	"
"	25	7.86	393	619	9.0	"
"	26	8.25	396	612	8.9	"
"	27	8.39	405	465	8.4	"
"	28	7.82	374	458	8.0	"
"	29	7.94	379	726	7.7	"

PROJECT NAME: MMR DATE INSTALLED: 28 Oct 97 WELL NUMBER: ML2

PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
12 Nov 97	30	7.89	386	933	7.5	Brown / slightly silty
"	31	7.79	355	547	7.2	"
"	32	7.95	373	943	6.5	"
"	32.5	7.68	372	634	6.7	"
"	33	7.76	373	665	6.6	"
18 Nov 97	40	7.83	536	918	11.3	Brown silty
"	42	7.48	321	725	10.7	"
"	46	8.17	374	880	9.6	"
"	50	7.83	240	482	5.7	"
"	55	7.37	241	572	6.6	"
19 Nov 97	58	7.64	321	801	8.2	"
"	62	7.36	331	326	8.7	"
"	65	7.49 exp.	232	495	9.5	"
04 Feb 98	70 *	7.63 *	112 *	off-scale	9.2	Flow Rate ~ 2.1 gpm Brown (1.25)
"	75	7.59	110	off-scale	9.0	Brown / very cloudy

* First readings collected with Hydrometer.

PROJECT NAME: MMR DATE INSTALLED: 28 Oct 97 WELL NUMBER: MM25
 PROJECT NUMBER: 313000103 DEVELOPER: RA
 REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
04 Feb 98	80	7.87	110	off-scale	9.0	Brown very cloudy
"	85	7.79	110	offscale	9.0	"
"	90	7.83	110	763	9.0	"
"	95	7.67	110	774	9.0	"
"	100	7.77	110 ^{sc}	726	9.0	"
05 Feb 98	105	7.82	110	off-scale	9.0	Brown/cloudy
	110	7.61	110	825	9.0	"
	115	7.83	110	776	9.0	"
	120	7.74	112	623	9.0	"
	125	7.89	110	521	9.0	"
	130	7.87	110	496	9.0	"
	135	7.67	110	473	9.0	"
	140	7.83	110	411	9.0	cloudy
	145	7.76	110	398	9.0	"
	150	7.92	110	363	9.0	"

24084

REMARKS:

[illegible]

PROJECT NAME: MMR DATE INSTALLED: 28 Oct 97 WELL NUMBER: MW20

PROJECT NUMBER: 313000103 DEVELOPER: RO

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT E VAC Pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 360 (ft)

WATER LEVEL (h) 138.52 (ft)

WATER COLUMN (b-h) 221.48 (ft)

WELL VOLUME 55 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10 Nov 97	20	7.22	283	734	12.1	Brownish Gray silty
"	55	7.88	270	389	12.1	Milky gray/brown slight silt
"	110	7.05	201	515	11.5	"
"	165	7.13	179	153	10.6	Fairly lucid slightly milky
"	220	7.22	160	087	10.7	Almost clear slightly cloudy
"	275	7.23	151	067	10.2	"
"	330	7.20	147	054	10.2	"
11 Nov 97	385	6.89	188	101	8.9	Slightly gray cloudy
"	440	7.01	144	053	8.8	almost entirely clear slight cloudiness
"	495	7.48	139	039	9.0	"

Surge
1230

Surge
0706

PROJECT NAME: MMK DATE INSTALLED: 09 Jan 98 WELL NUMBER: MW2M1
 PROJECT NUMBER: 313000103 DEVELOPER: RG
 REMARKS: _____

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT EVAC
 SUBMERSIBLE PUMP _____
 OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL-
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 217 (ft)
 WATER LEVEL (h) 138.70 (ft)
 WATER COLUMN (b-h) 78.3 (ft)
 WELL VOLUME 19.5 (gal)

DEVELOPMENT LOG:		WATER QUALITY:				COMMENTS/
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COLOR
14 Jan 98	20	7.87	152	018	8.2	clear surged several times
4	4030	7.83	152	018	8.8	"
	40	7.81	151	017	8.8	clear
	50	7.80	151	017	8.9	"
	60	7.82	151	010	8.9	"
	70	7.77	151	011	8.4	"
	80	7.75	151	011	8.9	"
	90	7.73	151	012	8.9	"
	100	7.64	151	10.2	8.9	"
	110	7.58	152	10.0	8.9	"

2 of 2

REMARKS: _____

[illegible]

PROJECT NAME: MMR DATE INSTALLED: 09 Jun 98 WELL NUMBER: _____
 PROJECT NUMBER: 313000103 DEVELOPER: RG MW2M2
 REMARKS: _____

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT EVAC
 SUBMERSIBLE PUMP _____
 OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL:
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 175 (ft)
 WATER LEVEL (h) 138.59 (ft)
 WATER COLUMN (b-h) 36.41 (ft)
 WELL VOLUME ~9 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
13 Jun 98	15	7.46	150	48	8.1	clear
"	20	7.84	151	190	8.8	post-surge slightly cloudy
"	30	7.73	151	82	8.9	fairly clear
"	35	7.57	152	66	8.9	"
"	40	7.63	152	52	8.9	"
"	45	7.67	152	40	9.0	"
"	50	7.63	152	36	8.9	clear
"	55	7.56	153	21	9.1	"
"	60	7.63	153	20	9.0	"
"	65	7.65	153	20	9.1	"

2 of 2

WELL NUMBER:

DEVELOPER: RB

MW2M2

REMARKS:

[illegible]

OGDEN

WELL DEVELOPMENT DATA

2-24-98
10F2

PROJECT NAME: MMR DATE INSTALLED: 2-20-98 WELL NUMBER: MW35
PROJECT NUMBER: 313000103 DEVELOPER: MIKE NOGENT / KATHY DADAR
REMARKS: SHARIOUS WELL - FLOW RATE = 0.1 gal/min

METHOD:

OVERPUMPAGE ☒
BAILER
SURGE BLOCK
AIR LIFT ☒
SUBMERSIBLE PUMP
OTHER

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ 1.75 GAL
OR FOR 2" WELL:
(b-h) FT * .16 = GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
DEPTH OF WELL (b) 54 (ft)
WATER LEVEL (h) 47.58 (ft)
WATER COLUMN (b-h) 6.42 (ft)
WELL VOLUME 1.75 (gal)

DEVELOPMENT LOG:		WATER QUALITY:				COMMENTS/ COLOR <u>Flow Rate</u> <u>= 0.1 gal/min</u>
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
2-24-98						
1130	0	6.69	122.1	67.8	9.2	Cloudy
1150	2	6.88	87.9	82.4	9.9	"
1210	4	6.97	66.2	91.5	9.9	"
1230	6	6.62	65.1	65.4	9.9	"
1250	8	6.44	63.2	46.2	9.9	"
1310	10	-	-	-	-	-
1330	12	-	-	-	-	-
1350	14	6.83	63.3	314	9.1	VERY cloudy
1410	16	6.67	63.2	136	9.1	"
* 1430	18	6.93	104.1	53.3	11	CLOUDY

OGDEN

WELL DEVELOPMENT DATA

10F2

PROJECT NAME: MMR DATE INSTALLED: 2-20-98 WELL NUMBER MW3D

PROJECT NUMBER: 313000103 DEVELOPER: MIKE NUGENT / KATHY DADARO

REMARKS: 2-23-98 - DEEP WELL

METHOD:

OVERPUMPAGE ✓

BAILER _____

SURGE BLOCK _____

AIR LIFT ✓

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{50} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 247 (ft)

WATER LEVEL (h) 46.68 (ft)

WATER COLUMN (b-h) 200.32 (ft)

WELL VOLUME 50 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COLOR Flow Rate = 2.5 gal/min
2/23/98						
1000	0	6	119	254	8.9	DARK GREY
1020	50	6	119	118	9.0	"
1040	100	6	119	104	9.5	"
1100	150	6	116	100	9.5	LIGHT GREY
1120	200	6	110	94	10.1	"
1140	250	6	106	85	10	"
1200	300	6	106	80	10	"
1220	350	6	106	69	10	"
1240	400	6	103	65	10	CLOUDY
1300	450	6	101	52	10	"

PROJECT NAME: mmr Impact DATE INSTALLED: 3/1/98 WELL NUMBER: MW3M1

PROJECT NUMBER: 313000103 DEVELOPER: R.M.P.

REMARKS: Screen 245-240 / water level taken at top of pvc

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfos

OTHER Evac (At beginning)

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) * (b-h) * 7.48 =$ _____ GAL

OR FOR 2" WELL:

$(b-h) * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2 1/2 (in)

DEPTH OF WELL (b) 245 (ft)

WATER LEVEL (h) 47.44 (ft)

WATER COLUMN (b-h) 197.54 (ft)

WELL VOLUME 240 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY NS/cm	TURBIDITY (NTU)	TEMP (°F)	
3/4/98	40	7.66	2.36	602	64.2	Silty / brown
1	50	7.64	2.4)	3578	64.4	1
	60	7.71	2.29	368	64.4	↓
	70	↓	2.10	224	"	"
	80	↓	1.63	220	"	"
	85	↓	1.61	168	"	"
	90	7.65	1.52	158	"	"
	95	7.71	1.44	140	"	"
	100	7.62	1.47	146	63.2	"
↓	105	7.48	1.98	216	63.6	"



WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: MMR (Imperf) DATE INSTALLED: 3/4/98WELL NUMBER: mw31PROJECT NUMBER: 313000103 DEVELOPER: RMP

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY NS/cm	TURBIDITY (NTU)	TEMP (F) (C)	
3/4/98	110	7.42	1.94	196 44	63.2	light brown
	120	7.40	1.76	124 44	"	"
	130	7.42	1.67	97.3	"	clean
	140	"	1.53	62.6	"	clean
	150	"	1.39	41.7	"	"
	160	"	1.40	40.2	"	"
	170	"	"	36.7	"	"
	180	7.44	1.31	29.8	"	"
	190	7.39	1.28	14.4	"	"
	200	"	1.20	10.6	63.1	"
	210	"	"	9.31	63.6	"
	220	"	1.16	6.55	"	"
	230	7.37	"	6.41	63.2	"
	240	"	1.17	6.31	"	"
	250	"	"	54.62	"	"

PROJECT NAME: MMR (5m p.c.f.) DATE INSTALLED: 3/4/98 WELL NUMBER: MW3M2
 PROJECT NUMBER: 317 000103 DEVELOPER: AMP
 REMARKS: Screen 145-140

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfos

OTHER _____

WELL VOLUME CALCUALATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2 1/2 (in)

DEPTH OF WELL (b) 145 (ft)

WATER LEVEL (h) 47.19 (ft)

WATER COLUMN (b-h) 137.91 (ft)

WELL VOLUME ~ 40 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY μS/cm	TURBIDITY (NTU)	TEMP F (°)	
3/4/98	40	7.89	2.44	662	67.3	slightly brown
	45	"	2.32	587	67.1	"
	50	7.72	2.29	492	66.5	"
	55	7.62	2.17	446	65.3	"
	60	7.60	2.36	431	"	"
	65	7.54	2.78	397	"	"
	70	"	3.37	287	"	"
	75	"	3.32	177	"	slightly silt
	80	2.59	3.45	189	66.3	slightly silt
↓	85	7.61	3.27	230	"	slightly silt



WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: MMR (Impact) DATE INSTALLED: 3/4/98 WELL NUMBER: MW5PROJECT NUMBER: 313000103 DEVELOPER: RMP

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY µs/cm	TURBIDITY (NTU)	TEMP F (°)	
	90	7.31	3.44	76.1	66.7	clear
	95	"	3.45	61.2	64.3	"
	100	7.36	3.29	59.3	65.8	"
	105	7.42	3.61	48.1	63.2	"
	110	7.26	3.36	32.6	61.5	"
	120	6.91	"	24.3	60.3	"
	130	7.52	"	9.81	59.8	"
	140	7.26	2.94	10.3	"	"
	150	"	"	6.52	"	"
	160	"	2.91	2.73	"	"
	170	7.39	"	7.61	"	"
	180	7.38	2.26	6.32	61.3	"
	190	7.34	1.97	5.76	60.4	"
	200	7.35	"	4.31	62.6	"
	210	"	1.62	5.84	"	"
	220	7.36	1.63	5.71	62.3	"
	230	"	"	4.14	"	"
	240	7.32	1.58	4.24	"	"

PROJECT NAME: Impact Area DATE INSTALLED: 8/18/97 WELL NUMBER: 4

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: Page 1 of 2

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfos (TD Evac. pump)

OTHER Reciprocating Water

WELL VOLUME CALCULATIONS:

$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 = \underline{1.75} \text{ GAL}$

OR FOR 2" WELL:

$(b-h) \text{ FT} \cdot .16 = \underline{\hspace{2cm}} \text{ GAL}$

$.25 \times \text{column} = 2.5" \text{ well}$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 146.92 (ft)

WATER LEVEL (h) 1039.27 139.7 (ft)

WATER COLUMN (b-h) 7.22' (ft)

WELL VOLUME 1.75 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
9/4/97	6 gal	5.39	66.9 $\mu\text{S}/\text{cm}$	949 NTU	11.3°C	Light Brown Est. rate 1.5 gpm
"	14 gal	5.33	62.4	116.2 NTU	11.3°C	from Water pump
"	20 gal	5.34	62.1	73.8 NTU	11.3°C	
"	28 gal	5.56	61.7	68.4 NTU	11.3°C	Battery is changed in pH meter
"	36 gal	5.55	62.3	52.3 NTU	11.5°C	
"	44 gal	5.45	70.5	27.3 NTU	16.1°C	Submersible Evac. pump used. Est pump rate .7 gpm
"	50 gal	5.51	68.6	12.8 NTU	14.9°C	
"	58 gal	5.55	67.4	8.1 NTU	14.4°C	Pump rate increases to est. 1.0 gpm
"	66 gal	5.55	65.9	5.42 NTU	13.7°C	
"	74 gal	5.58	65.6	4.65 NTU	13.5°C	

WELL DEVELOPMENT DATA 2 of 2

PROJECT NAME: Impact Area DATE INSTALLED: 8/18/97 WELL NUMBER: 4

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: Page 2 of 2[illegible]

PROJECT NAME: Impact Area DATE INSTALLED: 8/18/97 WELL NUMBER: 4

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: Page 1 of 2

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfos (TP Evac. pump)

OTHER Reciprocating Water

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{1.75} \text{ GAL}$$

OR FOR 2" WELL:

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

$$.25 * \text{column} = 2.5 \text{ "well}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 146.92 (ft)

WATER LEVEL (h) 139.27 139.7 (ft)

WATER COLUMN (b-h) 7.22' (ft)

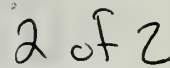
WELL VOLUME 1.75 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/4/97	6 gal	5.39	66.9 $\mu S/cm$	949 NTU	11.3°C	Light Brown Est. rate 1.5 gpm
"	14 gal	5.33	62.4	116.2 NTU	11.3°C	from Water pump
"	20 gal	5.34	62.1	73.8 NTU	11.3°C	
"	28 gal	5.56	61.7	68.4 NTU	11.3°C	Battery is changed in pH meter
"	36 gal	5.55	62.3	52.3 NTU	11.5°C	
"	44 gal	5.45	70.5	27.3 NTU	16.1°C	Submersible Evac. pump used. Est pump rate .7 gpm
"	50 gal	5.51	68.6	12.8 NTU	14.9°C	
"	58 gal	5.55	67.4	8.1 NTU	14.4°C	Pump rate increases to est. 1.0 gpm
"	66 gal	5.55	65.9	5.42 NTU	13.7°C	
"	74 gal	5.58	65.6	4.65 NTU	13.5°C	

REMARKS: Page 2 of 2[illegible]

PROJECT NAME: MMR DATE INSTALLED: 18 Nov 97 WELL NUMBER: MWS5

PROJECT NUMBER: 313000103 DEVELOPER: RC

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Arch pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 129 (ft)

WATER LEVEL (h) 114.72 (ft)

WATER COLUMN (b-h) 14.28 (ft)

WELL VOLUME ~3.6 (gal)

DEVELOPMENT LOG:		WATER QUALITY:				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
^{Jan} 04 Feb 98	20	7.59	135	888	9.1	⁰⁴⁰⁰ Brown/cloudy
"	30	7.96	136	676	9.0	⁰⁴²⁰ "
"	⁰⁶ 60 50	7.88	136	672	9.0	¹⁰⁰⁰ "
"	60	7.90	136	620	8.9	¹⁰²⁰ "
"	80	7.96	136	off-scale	9.0	⁰¹⁰⁰ surged, brown
"	100	7.91	135	off-scale	9.0	¹¹⁴⁰ brown/silty
"	110	7.88	136	"	9.0	"
"	115	7.82	136	934	9.0	"
29 Jan 98	125	8.22	133	851	9.1	¹¹⁵⁵ Brown/cloudy post-surge
"	120 ⁰¹ 135	8.16	133	539	9.0	"

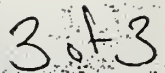


WELL DEVELOPMENT DATA 2 of 3

PROJECT NAME: MNR DATE INSTALLED: 18 Nov 97 WELL NUMBER: mw55PROJECT NUMBER: 313000103 DEVELOPER: RC

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
29 Jan 98	145	8.14	133	335	9.0	brown/ cloudy
/	150	8.07	133	342	9.0	"
/	155	8.11	133	333	9.0	"
/	165	8.07	133	223	9.0	"
/	175	8.03	133	176	9.0	cloudy
/	180	8.00	133	155	9.0	"
/	190	8.03	133	164	9.0	"
/	195	8.09	133	154	9.0	"
/	205	7.97	133	166	9.0	"
/	210	8.01	133	176	9.0	"
↓	215	8.09	133	143	9.0	"
30 Jan 98	220	8.01	133	425	9.2	10.0 post-surge brown/cloudy
	230	8.02	133	315	9.0	cloudy
	240	7.98	133	275	9.0	"
	245	8.03	133	200	9.0	cloudy



PROJECT NAME: MMR DATE INSTALLED: 18 Nov 97 WELL NUMBER: MWS5
PROJECT NUMBER: 313000103 DEVELOPER: RG
REMARKS:

[illegible]

OGDEN**WELL DEVELOPMENT DATA**

1 of 2

PROJECT NAME: MMR DATE INSTALLED: _____ WELL NUMBER: _____PROJECT NUMBER: 313000103 DEVELOPER: FG

MW5D

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVAC

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS: $3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

 $(b-h) FT * .16 =$ _____ GAL**WELL PARAMETERS:**WELL DIAMETER (d) 2.5 (in)DEPTH OF WELL (b) 340 (ft)WATER LEVEL (h) 114.91 (ft)WATER COLUMN (b-h) 224.09 (ft)WELL VOLUME ~56 (gal)**DEVELOPMENT LOG:****WATER QUALITY:****COMMENTS/
COLOR**

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
03 Feb 98	40	7.80	116	off-scale	10.2°	Post-surge 1425 gray/silty
"	80	7.84	115	296	10.0	1445 slightly cloudy
"	110	8.01	115	69.1	10.1	1500 fairly clear
"	150	8.12	115	33.1	10.0	1520 "
"	190	8.09	115	27.7	10.0	1540 "
"	230	8.01	115	23.3	10.0	1600 "
04 Feb 98	270	8.03	115	22.8	10.0	1600 clear
"	310	8.07	115	17.9	10.0	1620 "
"	350	8.01	115	16.3	10.0	1640 "
"	390	7.98	115	15.2	10.0	1640 "

2 of 2

MW50

REMARKS:

[illegible]

OGDEN**WELL DEVELOPMENT DATA**

1 of 2

PROJECT NAME: MMR DATE INSTALLED: _____ WELL NUMBER: _____
PROJECT NUMBER: 313000103 DEVELOPER: RG MW5M1
REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVALC

SUBMERSIBLE PUMP _____

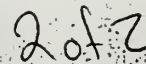
OTHER _____

WELL VOLUME CALCULATIONS: $3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL:

 $(b-h) FT * .16 =$ _____ GAL**WELL PARAMETERS:**WELL DIAMETER (d) 2.5 (in)DEPTH OF WELL (b) 215 (ft)WATER LEVEL (h) 115.12 (ft)WATER COLUMN (b-h) 99.88 (ft)WELL VOLUME ~25 (gal)**DEVELOPMENT LOG:****WATER QUALITY:****COMMENTS/
COLOR**

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
2 Feb 98	25	7.86	108	64.6	10.5	clear
	50	7.83	107	32.7	10.2	"
	60	7.54	106	390	9.8	post-surge brown/cloudy
	75	7.86	107	46.4	10.1	clear
	100	7.93	109	37.1	10.0	"
	125	8.02	108	23.4	10.1	"
	150	8.13	107	546	10.0	post-surge brown/cloudy
	175	8.06	107	22.8	10.0	clear
	200	8.11	107	11.6	10.1	"
✓	225	8.03	107	7.2	10.0	"

REMARKS: _____[illegible]

PROJECT NAME: MMP DATE INSTALLED: _____ WELL NUMBER: MW5M2
 PROJECT NUMBER: 313000103 DEVELOPER: RG
 REMARKS: _____

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT EVAC
 SUBMERSIBLE PUMP _____
 OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL:
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 175 (ft)
 WATER LEVEL (h) 114.89 (ft)
 WATER COLUMN (b-h) 60.11 (ft)
 WELL VOLUME ~15 (gal)

DEVELOPMENT LOG:		WATER QUALITY:				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
2 Feb 98	15	7.96	108	991	10.0	brown
"	30	7.92	107	229	10.0	cloudy/gray
"	45	7.94	107	73.6	10.0	clearing up
"	50	8.01	107	551	10.2	post-surge cloudy/gray
"	60	7.90	107	524	10.0	cloudy
"	75	7.96	107	752	10.0	post-surge cloudy/brown
3 Feb 98	90	7.86	107	121	10.0	fairly cloudy
"	105	8.02	107	60.6	10.0	fairly clear
"	120	7.92	107	44.6	10.0	"
"	135	7.86	107	36.3	10.0	"

2 of 2

MW 5 M2

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-24-97 WELL NUMBER: 6(S)

PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer

REMARKS: Coarse pack-like sand clogged Water at 30' interval, Water cleared quickly afterward.

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Watera reciprocating

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
OR FOR 2" WELL- $2.5" \text{ well} = .25 * \text{column height}$
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 116 (ft)

WATER LEVEL (h) 109.4 (ft)

WATER COLUMN (b-h) 6.6 (ft)

WELL VOLUME 1.65 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10-2-97	10 Gal.	6.02	101.4 $\mu S/cm$	Off Scale	12.6°C	Brownish-Grey Watera Flow rate
"	20 Gal.	5.80	66.7 $\mu S/cm$	300. NTU	11.7°C	estimate is 0.5 GPM
"	30 Gal.	5.76	68.4 $\mu S/cm$	272 NTU	12.0°C	
"	40 Gal.	5.78	74.4 $\mu S/cm$	247 NTU	13.7°C	Light Brown, Hazy
"	50 Gal.	5.25	65.7 $\mu S/cm$	6.90 NTU	10.5°C	Clear
"	60 Gal.	6.06	64.6 $\mu S/cm$	7.35 NTU	10.4°C	
"	70 Gal.	5.97	64.8 $\mu S/cm$	7.20 NTU	11.1°C	Clear, 5 GPM Flow
"	80 Gal.	6.07	64.4 $\mu S/cm$	6.75 NTU	10.5°C	

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97 WELL NUMBER: MW-7
 PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer
 REMARKS: Page 1

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Reciprocating

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{3.2} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL} \quad 2.5" = .25 * \text{column}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 113 (ft)

WATER LEVEL (h) 104 (ft)

WATER COLUMN (b-h) 9 (ft)

WELL VOLUME 3.2 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/2/97	1 gal	7.05	135.5 $\mu S/cm$	Off Scale	18.1°C	Light Brown Est. pump rate .5 gpm
"	5 gal	7.60	120.9	Off Scale	15.9°C	Recip. pump used
"	15 gal	7.65	110.2	Off Scale	16.6°C	
"	22 gal	7.55	104.1	427 NTU	16.7°C	Est. pump rate .8 gpm
"	35 gal	N/A	N/A	N/A	N/A	Well base cap is broken through development ceases on shallow well.
9/3/97	N/A	N/A	N/A	N/A	N/A	Air lift pump used, Water column not rising.
9/3/97	38 gal.	6.66	91.0	378 NTU	12.5°C	Water used again. Est. pump rate .8 gpm

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97

WELL NUMBER: MW-

Shallow

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: Page 2

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/3/97	50 gal.	6.74	82.7	842 NTU	13.0°C	Light greyish brown
"	65 gal.	6.41	73.0	456 NTU	11.6°C	
"	85 gal.	6.34	71.6	250 NTU	11.5°C	
"	100 gal.	6.32	69.2	168 NTU	11.7°C	
"	115 gal.	6.33	73.2	215 NTU	14.7°C	Grundfos pump deployed
"	135 gal.	6.28	72.7	89 NTU	14.3°C	Est. pump rate 1.0 gpm Hazy
"	145 gal.	6.34	73.3	64 NTU	14.7°C	
"	155 gal.	6.29	72.4	56 NTU	14.7°C	Est. pump rate .7 gpm
"	165 gal.	6.27	71.1	51 NTU	14.7°C	
"	170 gal.	6.35	70.8	43 NTU	14.4°C	
"	175 gal.	6.20	71.5	35 NTU	14.6	
"	180 gal.	6.33	69.1	31.2	14.1	
"	185 gal.	6.23	68.5	30.1	14.2	
"	190 gal.	6.35	69.3	29.7	14.2	

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97 WELL NUMBER: MW-2
 PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer Shallow
 REMARKS: Page 1 of 2

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Reciprocating

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{3.2} \text{ GAL } 2.25$$

OR FOR 2" WELL:

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL } 2.5" = .25 * \text{column}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 113 (ft)

WATER LEVEL (h) 104 (ft)

WATER COLUMN (b-h) 9 (ft)

WELL VOLUME 3.2 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/2/97	1 gal	7.05	135.5 μ S/cm	Off Scale	18.1°C	Light Brown Est. pump rate .5 gpm
"	5 gal	7.60	120.9	Off Scale	15.9°C	Recip. pump used
"	15 gal	7.65	110.2	Off Scale	16.6°C	
"	22 gal	7.55	104.1	427 NTU	16.7°C	Est. pump rate .8 gpm
"	35 gal	N/A	N/A	N/A	N/A	Well base cap is broken through
						development ceases on shallow well.
9/3/97	N/A	N/A	N/A	N/A	N/A	Air lift pump used, Water column not rising.
9/3/97	38 gal.	6.66	91.0	378 NTU	12.5°C	Water used again. Est. pump rate .8 gpm

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97 WELL NUMBER: MW-1
 PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer Shallow
 REMARKS: Page 2 of 2

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/3/97	50 gal.	6.74	82.7	842 NTU	13.0°C	Light greyish brown
"	65 gal.	6.41	73.0	456 NTU	11.6°C	
"	85 gal.	6.34	71.6	250 NTU	11.5°C	
"	100 gal.	6.32	69.2	168 NTU	11.7°C	
"	115 gal.	6.33	73.2	215 NTU	14.7°C	Grundfos pump deployed Est. pump rate
"	135 gal.	6.28	72.7	89 NTU	14.3°C	1.0 gpm Hazy
"	145 gal.	6.34	73.3	64 NTU	14.7°C	
"	155 gal.	6.29	72.4	56 NTU	14.7°C	Est. pump rate .7 gpm
"	165 gal.	6.27	71.1	51 NTU	14.7°C	
"	170 gal.	6.35	70.8	43 NTU	14.4°C	
"	175 gal.	6.20	71.5	35 NTU	14.6	
"	180 gal.	6.33	69.1	31.2	14.1	
"	185 gal.	6.23	68.5	30.1	14.2	
"	190 gal.	6.35	69.3	29.7	14.2	

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97 WELL NUMBER: MW-7
 PROJECT NUMBER: 313 000/03 DEVELOPER: Tim Dwyer Deep
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Air Lift / Evac. pump

SUBMERSIBLE PUMP Grundfos

OTHER _____

WELL VOLUME CALCULATIONS: JD 60.2

$$3.14 * (d^2/4) * FT * (b-h) * 7.48 = \underline{85} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

$$2\frac{1}{2}" = .25 * \text{column}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 342 (ft)

WATER LEVEL (h) 105 (ft)

WATER COLUMN (b-h) 237 (ft)

WELL VOLUME 85 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/2/97	2 gal.	7.48	111.8 $\mu S/cm$	Off Scale	15°C	Gray-Brown Est. rate
"	20 gal.	7.52	86.6	471 NTU	12.2°C	1.5 gpm on Air lift pump
"	30 gal.	7.46	82.9	324 NTU	12.1°C	
"	45 gal.	7.26	81.4	253 NTU	12.3°C	Semi-transparent
"	70 gal.	7.36	77.2	222 NTU	12.1°C	
"	90 gal.	7.19	77.2	205 NTU	12.0°C	
"	115 gal.	7.23	78.1	203 NTU	12.1°C	
"	140 gal.	7.19	77.6	175 NTU	11.9°C	
"	175 gal.	6.96	75.4	147 NTU	12.4°C	
"	195 gal.	7.20	72.1	144 NTU	11.8°C	

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97 WELL NUMBER: MW-1

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/2/97	220 gal.	7.13	71.2 μ S/cm	142	12.1°C	
"	240 gal.	6.81	70.7	137	12.4°C	Hazy
9/3/97	260 gal.	6.48	93.0	663	14.6°C	Grundfos deployed
"	280 gal.	6.42	76.6	346	14.0°C	Light Brown Est. rate:
"	300 gal	6.51	77	207	13.7°C	1.7 gpm =
"	320 gal	6.53	75	198	13.2°C	
"	350 gal	6.41	77	163	15.0°C	
"	380 gal	6.51	74	147	14.5	
"	410 gal	6.63	73	132	13.2	
"	450 gal	6.29	72.0	130	12.7°C	
"	480 gal	6.49	73.0	123	13.3°C	
"	520 gal	6.37	70.0	112	12.7°C	
"	540 gal	6.32	72.0	110	13.2°C	Pump rate is slowed,
"	560 gal	6.38	66.1	110	13.8	Est. rate .5 gpm
"	580 gal	6.26	68.2	113	14.2°C	Pump rate increased to 1.0 gpm est.
"	600 gal	6.41	66.2	116	13.2°C	End pumping

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97 WELL NUMBER: MW-7
 PROJECT NUMBER: 313 000103 DEVELOPER: Tim Dwyer Deep
 REMARKS: Page 1 of 2

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Air Lift / Evac. pump

SUBMERSIBLE PUMP Grundfos

OTHER _____

WELL VOLUME CALCULATIONS: JD 60.2

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{85} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

$$2\frac{1}{2}" = .25 * \text{column}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 342 (ft)

WATER LEVEL (h) 105 (ft)

WATER COLUMN (b-h) 237 (ft)

WELL VOLUME 85 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
9/2/97	2 gal.	7.48	111.8 $\mu S/cm$	Off Scale	15°C	Gray-Brown Est. rate
"	20 gal.	7.52	86.6	471 NTU	12.2°C	1.5 gpm on Air lift pump
"	30 gal.	7.46	82.9	324 NTU	12.1°C	
"	45 gal.	7.26	81.4	253 NTU	12.3°C	Semi-transparent
"	70 gal.	7.36	77.2	222 NTU	12.1°C	
"	90 gal.	7.19	77.2	205 NTU	12.0°C	
"	115 gal.	7.23	78.1	203 NTU	12.1°C	
"	140 gal.	7.19	77.6	175 NTU	11.9°C	
"	175 gal.	6.96	75.4	147 NTU	12.4°C	
"	195 gal.	7.20	72.1	144 NTU	11.8°C	

PROJECT NAME: Impact Area DATE INSTALLED: 8/26/97 WELL NUMBER: MW-1
Deep
 PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer
 REMARKS: Page 2 of 2

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/2/97	220 gal.	7.13	71.2 μ S/cm	142	12.1°C	
"	240 gal.	6.81	70.7	137	12.4°C	Hazy
9/3/97	260 gal.	6.48	93.0	663	14.6°C	Grundfos deployed
"	280 gal.	6.42	76.6	346	14.0°C	Light Brown Est. rate:
"	300 gal	6.51	77	207	13.7°C	1.7 gpm
"	320 gal	6.53	75	198	13.2°C	
"	350 gal	6.41	77	163	15.0°C	
"	380 gal	6.51	74	147	14.5	
"	410 gal	6.63	73	132	13.2	
"	450 gal	6.29	72.0	130	12.7°C	
"	480 gal	6.49	73.0	123	13.3°C	
"	520 gal	6.37	70.0	112	12.7°C	
"	540 gal	6.32	72.0	110	13.2°C	Pump rate is slowed,
"	560 gal	6.38	66.1	110	13.8	Est. rate .5 gpm
"	580 gal	6.26	68.2	113	14.2°C	Pump rate increased to T. 1.0 gpm est.
"	600 gal	6.41	66.2	116	13.2°C	End pumping

PROJECT NAME: MMR DATE INSTALLED: 19 Nov 97 WELL NUMBER MW7M2
 PROJECT NUMBER: 31300003 DEVELOPER: RG MW7M1
 REMARKS: SR

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVAC/Arch/Grundfos

SUBMERSIBLE PUMP _____

OTHER Arch/Grundfos

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 245 (ft)

WATER LEVEL (h) 116.38 (ft)

WATER COLUMN (b-h) 128.62 (ft)

WELL VOLUME 32.2 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY $\mu S/cm$	TURBIDITY (NTU)	TEMP (C)	
20 Nov 97	35	6.61	375	off-scale	8.5	Brown/silty
"	60	6.58	124	885	8.5	"
"	90	6.63	119	610	8.8	cloudy
"	120	6.94	121	377	9.4	"
"	150	6.97	120	368	9.4	"
"	180	6.87	119	355	9.6	"
"	210	6.73	119	372	9.6	cloudy/silty
"	240	6.98	119	378	9.4	"
"	270	6.88	117	277	9.4	"
✓	300	6.68	118	475	8.8	post-surginy cloudy



WELL DEVELOPMENT DATA

2 of 3

PROJECT NAME: MMR DATE INSTALLED: 19 Nov 97 WELL NUMBER: NW7M1
PROJECT NUMBER: 313000103 DEVELOPER: RG
REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
20 Nov 97	330	6.54	117	605	8.6	cloudy
21 Nov 97	340	7.78	131.6	off-scale	12.7	First readings w/ Grundfos
"	342	7.34	127.5	"	11.4	"
"	348	7.51	128.2	"	11.2	"
07 Jan 98	390	7.85	92	950	11.0	new meter - Arch pump silty/cloudy
"	415	7.67	89	730	11.2	cloudy
"	445	7.65	102	430	10.9	1550 cloudy
08 Jan 98	470	7.72	133	368	10.9	1000 silty
"	500	8.05	132	1067	10.9	1040 very silty
"	535	7.95	132	1071	10.9	1030 "
"	565	7.86	132	945	11.0	1110 "
"	595	7.82	133	975	10.9	1150 "
"	625	7.83	133	1054	10.9	1230 gray, silty
"	655	7.77	133	1057	11.0	1310 "
"	685	7.76	133	994	10.9	1350 "

1 of 3

PROJECT NAME: MMR DATE INSTALLED: 18/6/97 WELL NUMBER: _____

PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVAC

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCUATIONS:

$$3.14 * (d^2/4)FT * (b-h)FT * 7.48 = \underline{\hspace{2cm}} \text{ GAL}$$

OR FOR 2" WELL-

(b-h)FT * .16 = _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.7 (in)

DEPTH OF WELL (b) 175 (ft)

WATER LEVEL (h) 106.49 (ft)

WATER COLUMN (b-h) 68.51 (ft)

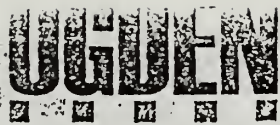
WELL VOLUME 17.13 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/
COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COLOR	COMMENTS
28 Jan 98	20	8.20	140	348	9.2	gray/silty	0915
	35	8.26	140	326	9.2	"	0925
	50	8.19	140	313	9.2	"	
	65	8.07	141	311	9.1	"	
	80	8.22	141	303	9.0	"	
	95	8.15	140	297	9.0	"	
	110	8.18	140	267	9.0	"	
	125	8.09	140	263	9.0	cloudy	1025
	155	8.12	143	258	9.2	"	1045
	185	8.08	143	267	9.2	"	1105



WELL DEVELOPMENT DATA

2 of 3

PROJECT NAME: MMR DATE INSTALLED: 18 Nov 97 WELL NUMBER: MM7M2PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
28 Nov 97	215	8.11	143	off-scale	9.0	post-surge gray/silty
/	245	8.02	143	162	9.0	slightly cloudy
/	275	8.20	143	off-scale	9.0	post-surge gray/silty
/	300	8.08	143	232	9.1	cloudy
/	315	8.12	143	140	9.0	slightly cloudy
/	330	8.09	143	136	9.0	"
/	345	8.02	143	146	9.0	"
/	360	8.07	143	623	9.0	post-surge gray/silty
/	375	8.08	143	63.2	9.0	fairly clear
/	390	8.12	143	42.1	9.0	"
/	405	8.03	143	23.2	9.0	"
/	420	8.10	143	509	9.0	post-surge cloudy/gray
/	435	8.08	143	143	9.0	cloudy
/	450	8.08	143	63.4	9.0	fairly clear
▼	465	8.03	143	459	9.0	fairly clear

PROJECT NAME: mmr DATE INSTALLED: 10 - 97 WELL NUMBER: mw-8

PROJECT NUMBER: 313000103 DEVELOPER: Sharon Chittam

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Arch pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \text{GAL}$$

OR FOR 2" WELL-

$$2.5" \text{ well} = .25 * \text{column height}$$

$$(b-h) FT * .16 = \text{GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 113.30 (ft)

WATER LEVEL (h) 107.20 (ft)

WATER COLUMN (b-h) 6.1 (ft)

WELL VOLUME 1.525 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	Flow Rate = 1/8 gal./min Orange/brown - pvc
10/21/97	1 gallon	6.79	46.5 μ S/cm	off scale	15.5	
10/21/97	2 gal.	6.31	40.8 μ S/cm	off scale	13.7	
10/21/97	3 gal.	6.34	40.5 μ S/cm	523	12.7	
10/21/97	4 gal.	6.44	39.8 μ S/cm	281	12.0	pvc
10/21/97	5 gal	6.14	40.5	186	11.2	
10/21/97	6 gal	6.25	40.4	151	11.2	cloudy
10/21/97	8 gal	6.22	40.3	102	11.0	
10/21/97	12 gal	6.24	40.0	99	10.8	pcs. of pvc slight increase in pump rate
10/21/97	16 gal	6.65	40.3	65	11.1	Pump stops -
10/21/97	20 gal	6.27	40.3	59	11.3	clear to hazy

PROJECT NUMBER: 313000103 DEVELOPER: Sharon Chittam

REMARKS: _____

[illegible]

PROJECT NAME: mmp Impact DATE INSTALLED: 9/25/97 WELL NUMBER: MW-9

PROJECT NUMBER: 313000103 DEVELOPER: Sharon Chittam

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT arch pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 =$ _____ GAL
OR FOR 2" WELL: for 2.5" well = $.25 \cdot (b-h) \text{ ft}$
(b-h) FT $\cdot .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 123 (ft)

WATER LEVEL (h) 115 (ft)

WATER COLUMN (b-h) 8 (ft)

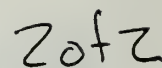
WELL VOLUME 2 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
10-22-97	0	6.51	51.2 $\mu\text{S/cm}$	off scale	11.7	orange/brown orange/brown
10-22-97	15	6.42	50.8 $\mu\text{S/cm}$	off scale	11.8	
10-22-97	30	6.23	50.3 $\mu\text{S/cm}$	626	11.2	pump rate $\approx 3/4$ gal/min
10-22-97	45	6.30	50.2 $\mu\text{S/cm}$	512	11.1	
10-22-97	60	6.25	50.3 $\mu\text{S/cm}$	502	11.3	
10-22-97	75	5.84	50.1 $\mu\text{S/cm}$	375	11.4	light orange/brown
10-22-97	90	6.13	50.1 $\mu\text{S/cm}$	185	11.4	
10-22-97	105	6.13	49.6 $\mu\text{S/cm}$	99	11.1	cloudy
10-22-97	120	6.16	49.4 $\mu\text{S/cm}$	70	11.0	hazy
10-22-97	135	5.56	51.0 $\mu\text{S/cm}$	66	10.6	



REMARKS: _____

[illegible]

PROJECT NAME: MMR DATE INSTALLED: 08-11-97 WELL NUMBER: MW-10D
 PROJECT NUMBER: 313 000103 DEVELOPER: W. Gallagher
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT ✓

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL:
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 361.5 (ft)
 WATER LEVEL (h) 147.99 (ft)
 WATER COLUMN (b-h) 213.5 (ft)
 WELL VOLUME 43 Gal (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
8-25-97 40 Gal	40 Gal	7.37	122.5 $\mu S/cm$	853 NTU	13.5°	Pumping Rate @ 16 GPM Brown
8-25-97	80 Gal	7.07	102.5 $\mu S/cm$	233 NTU	13.1°	Pumping increased to 1.25 GPM/Brown
"	120 Gal	7.28	109 $\mu S/cm$	308 NTU	13.6°	Switch to Constant Pump @ 1.25 GPM
"	165 Gal	6.78	104 $\mu S/cm$	204 NTU	14.5°	Clear
"	200 Gal	7.05	99 $\mu S/cm$	32.7 NTU	14.5°	Clear
"	230 Gal	6.88	98.9 $\mu S/cm$	22.6 NTU	14.7°	"
"	280 Gal	6.97	95.2 $\mu S/cm$	19.5 NTU	14.7°	"
"	315 Gal	6.89	101.1 $\mu S/cm$	12.4 NTU	14.8°	"
"	350 Gal	6.82	96.7 $\mu S/cm$	8.4 NTU	14.8°	"
"	380 Gal	6.84	99.3 $\mu S/cm$	9.2 NTU	14.7°	"



WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: MMR DATE INSTALLED: 08-21-97 WELL NUMBER: MW101PROJECT NUMBER: 313000103 DEVELOPER: W. Gallagher

REMARKS: _____

DEVELOPMENT LOG

WATER QUALITY

COMMENTS/
COLOR

DATE CUMULATIVE VOLUME (gal) pH CONDUCTIVITY TURBIDITY (NTU) TEMP (C)

8-25-97 415 gal 6.87 97.6 μ S/cm 8.9 NTU 14.7° C/cor8-25-97 440 gal 6.83 98.4 μ S/cm 8.8 NTU 14.7° "

PROJECT NAME: MMR DATE INSTALLED: 16 Oct 97 WELL NUMBER: MW10_N
 PROJECT NUMBER: 31300003 DEVELOPER: LG mw-10m
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT FVAC pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL:
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 285 (ft)
 WATER LEVEL (h) 147.02 (ft)
 WATER COLUMN (b-h) 138 (ft)
 WELL VOLUME 34.5 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY ()	TURBIDITY (NTU)	TEMP (C)	
<u>14 Nov 97</u>	<u>35</u>	<u>8.49</u>	<u>104</u>	<u>047</u>	<u>8.5</u>	<u>fairly clear</u>
<u>"</u>	<u>70</u>	<u>8.37</u>	<u>061</u>	<u>067</u>	<u>8.8</u>	<u>slightly cloudy (post-surge)</u>
<u>"</u>	<u>105</u>	<u>8.28</u>	<u>061</u>	<u>027</u>	<u>8.9</u>	<u>clear</u>
<u>"</u>	<u>140</u>	<u>8.31</u>	<u>062</u>	<u>025</u>	<u>9.1</u>	<u>clear</u>
<u>"</u>	<u>175</u>	<u>8.25</u>	<u>062</u>	<u>013</u>	<u>9.1</u>	<u>"</u>
<u>"</u>	<u>210</u>	<u>8.28</u>	<u>062</u>	<u>013</u>	<u>9.2</u>	<u>"</u>
<u>"</u>	<u>245</u>	<u>8.30</u>	<u>062</u>	<u>013</u>	<u>9.1</u>	<u>"</u>
<u>"</u>	<u>280</u>	<u>8.23</u>	<u>062</u>	<u>012</u>	<u>9.0</u>	<u>"</u>
<u>"</u>	<u>315</u>	<u>8.25</u>	<u>061</u>	<u>013</u>	<u>9.1</u>	<u>"</u>
<u>✓</u>	<u>350</u>	<u>8.25</u>	<u>062</u>	<u>013</u>	<u>9.1</u>	

2 of 2

mw 10m

REMARKS: _____

[illegible]

PROJECT NAME: Impact Area DATE INSTALLED: 8/11/97 WELL NUMBER: 10 S
 PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer MW-10S
 REMARKS: Page 1 of 2 SR

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfos

OTHER Watera, recipricating

WELL VOLUME CALCATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{1.8} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

.25 x column = well vol.

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 155.3' (ft)

WATER LEVEL (h) 148.05' (ft)

WATER COLUMN (b-h) 7.25' (ft)

WELL VOLUME 1.8 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/4/97	2 gal.	6.90	163 $\mu S/cm$	Off Scale	14.1°C	Greyish-Brown Watera est. rate
"	7 gal.	7.10	138	Off Scale	11.8°C	of .8 gpm
"	14 gal.	6.67	120	Off Scale	12.0°C	
"	22 gal.	6.68	108	820 NTU	11.7°C	estimated rate is 1.0 gpm
"	32 gal.	6.66	127	689 NTU	14.3°C	
"	42 gal.	6.47	101	736 NTU	11.4°C	estimated rate is .5 gpm
"	55 gal.	6.46	99	653 NTU	11.5°C	Light Brown
"	70 gal.	6.40	94	566 NTU	12.1°C	
"	90 gal.	6.24	88	396 NTU	11.5°C	
"	105 gal.	6.28	87	342 NTU	12.6°C	

PROJECT NAME: Impact Area DATE INSTALLED: ~~8/18/97~~ 8/11/97 WELL NUMBER: 105

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

MW-105

REMARKS: Page 2 of 2

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/4/97	120 gal.	6.25	83.2 $\mu\text{S}/\text{cm}$	276 NTU	12.0°C	Hazy
"	—	—	—	—	—	Grundfos is installed but not producing
9/18/97	130 Gal	6.28	187.7 $\mu\text{S}/\text{cm}$	112 NTU	14.6°C	Switched to Anch Air lift @ ~0.56 PM
"	140 Gal	6.36	64.5 $\mu\text{S}/\text{cm}$	91.1 NTU	14.7°C	Clean
"	150 Gal	6.26	77.6 $\mu\text{S}/\text{cm}$	198 NTU	15.1°C	Pump Intake Moved
"	160 Gal	6.20	64.5 $\mu\text{S}/\text{cm}$	212 NTU	14.8°C	
"	170 Gal	6.42	64.7 $\mu\text{S}/\text{cm}$	77.5 NTU	14.1°C	
"	175 Gal	6.34	64.6 $\mu\text{S}/\text{cm}$	69.7 NTU	14.0°C	
"	177 Gal	6.28	63.2 $\mu\text{S}/\text{cm}$	63.4 NTU	13.9°C	
"	180 Gal	6.05	62.2 $\mu\text{S}/\text{cm}$	57.3 NTU	13.6°C	
"	185 Gal	6.11	62.5 $\mu\text{S}/\text{cm}$	54.4 NTU	13.6°C	
"	196 Gal	6.13	62.7 $\mu\text{S}/\text{cm}$	54.5 NTU	13.6°C	

PROJECT NAME: Impact Area DATE INSTALLED: 8/11/97 WELL NUMBER: 10
 PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer MW-100
 REMARKS: Page 1 of 2 SR

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfos

OTHER Watera, recipricating

WELL VOLUME CALCUATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{1.8} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

.25 * column = well vol.

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 155.3' (ft)

WATER LEVEL (h) 148.05' (ft)

WATER COLUMN (b-h) 7.25' (ft)

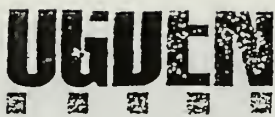
WELL VOLUME 1.8 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/4/97	2 gal.	6.90	163 μ S/cm	Off Scale	14.1°C	Greyish-Brown Watera est. rate
"	7 gal.	7.10	138	Off Scale	11.8°C	of .8 gpm
"	14 gal.	6.67	120	Off Scale	12.0°C	
"	22 gal.	6.68	108	820 NTU	11.7°C	estimated rate is 1.0 gpm
"	32 gal.	6.66	127	689 NTU	14.3°C	
"	42 gal.	6.47	101	736 NTU	11.4°C	estimated rate is .5 gpm
"	55 gal.	6.46	99	653 NTU	11.5°C	Light Brown
"	70 gal.	6.40	94	566 NTU	12.1°C	
"	90 gal.	6.24	88	396 NTU	11.5°C	
"	105 gal.	6.28	87	342 NTU	12.6°C	



WELL DEVELOPMENT DATA 2 of 2

PROJECT NAME: Impact Area DATE INSTALLED: 8/18/97^{TD} 8/11/97 WELL NUMBER: 10

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

MW-10D
SR

REMARKS: Page 2 of 2

DEVELOPMENT LOG

WATER QUALITY

COMMENTS/
COLOR

DATE

CUMULATIVE
VOLUME (gal)

pH

CONDUCTIVITY

TURBIDITY
(NTU)

TEMP
(C)

9/4/97

120 gal.

6.25

83.2 μ S/cm

276 NTU

12.0°C

Hazy

"

Grundfos is
installed but
not producing

OGDEN

WELL DEVELOPMENT DATA

PROJECT NAME: MNR DATE INSTALLED: 8-12-97 WELL NUMBER: MW-115
 PROJECT NUMBER: 313000103 DEVELOPER: W. Gallogher
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP ☒

OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \text{_____ GAL}$$

OR FOR 2" WELL -

$$(b-h) FT * .16 = \text{_____ GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 136.20 (ft)

WATER LEVEL (h) 125.38 (ft)

WATER COLUMN (b-h) 10.82 (ft)

WELL VOLUME 2.2 Gal (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
8-25-97	4 Gal	7.29	99.1 MS/cm	off-scale	16.1°	Pumping Rate 1 GPM / Brown
"	7 Gal	7.24	64.2 MS/cm	575 NTU	13.3°	lt Brown
"	10 Gal	7.09	59.8 MS/cm	244 NTU	12.4°	lt Brown
"	14 Gal	6.89	57.6 MS/cm	102 NTU	12.0°	Clear
"	20 Gal	6.05	64.6 MS/cm	48.8 NTU	13.1°	Switch to Groutless Pump @ 15 GPM / clear
"	30 Gal	6.01	59.3 MS/cm	46.0 NTU	13.3°	Clear
"	35 Gal	6.04	58.8 MS/cm	9.8 NTU	13.3°	"
"	40 Gal	5.95	58.6 MS/cm	9.4 NTU	13.4°	"
"	45 Gal	5.93	59.0 MS/cm	7.2 NTU	13.4°	"
"	50 Gal	6.04	58.3 MS/cm	4.74 NTU	13.5°	"

PROJECT NAME: MMR Impact DATE INSTALLED: 8/7/97 WELL NUMBER: MW-1

PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer

REMARKS: Page 1 of 2

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP ☒

OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 110.50 (ft)

WATER LEVEL (h) 99.44 (ft)

WATER COLUMN (b-h) 110.6 (ft)

WELL VOLUME 2.2 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
8/22	2 gal	6.52 ^{TD} 6.36	50.6 $\mu S/cm$	off scale 21000 NTU	16.2°C	3 GPM pump rate estimated
"	4 gal	6.18	52.5 $\mu S/cm$	918 NTU	16.9°C	2.5 GPM pump rate estimated Light Brown
"	8 gal	6.19	50.2 $\mu S/cm$	375 NTU	15.0°C	Lt Brown
"	11 gal	6.21	50.0 $\mu S/cm$	285 NTU	15.5°C	"
"	14 gal	6.23	50.3 $\mu S/cm$	192 NTU	16.4°C	"
"	17 gal	6.05	49.3 $\mu S/cm$	142 NTU	16.1°C	"
"	22 gal	6.13	56.1 $\mu S/cm$	29 NTU	16.0°C	First Sample with Submersible pump 1.75 GPM est.
"	34 gal	6.16	45.7 $\mu S/cm$	16.0 NTU 16.0 NTU	12.9°C	Clear
"	44 gal	6.10	45.2 $\mu S/cm$	11.4 NTU	13.1°C	Clear
"	54 gal	6.11	44.8 $\mu S/cm$	7.10 NTU	13.0°C	Clear

WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: MMR Impact DATE INSTALLED: 8/7/97

WELL NUMBER: MW-12

PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer

REMARKS: Page 2 of 2[illegible]

PROJECT NAME: MMR DATE INSTALLED: 04 Nov 97 WELL NUMBER: MW135
 PROJECT NUMBER: 313000103 DEVELOPER: RL
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Arch pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 83 (ft)

WATER LEVEL (h) 75.61 (ft)

WATER COLUMN (b-h) 7.39 (ft)

WELL VOLUME 1.85 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
21 Jan 98	10	7.57	121	725	10.0	Brown/silty
"	20	7.54	117	306	9.9	cloudy/Brown
"	25	7.52	117	266	9.8	"
"	27	7.59	116	off-scale	10.1	post surge very brown/cloudy
"	35	7.62	116	890	10.1	"
"	45	7.52	116	317	10.0	brown/cloudy
"	50	7.54	116	197	10.0	slightly cloudy
"	52	7.58	116	off-scale	10.0	post-surge brown/silt,
"	55	7.48	116	616	10.0	brown/cloudy
"	65	7.52	116	221	10.0	cloudy 1420

PROJECT NAME: MNR DATE INSTALLED: 04 Nov 97 WELL NUMBER: _____

PROJECT NUMBER: 313000103 DEVELOPER: RK

MW135

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
21 Jan 98	67	7.59	116	off scale	10.0	post-surge brown/muddy
"	70	7.52	116	737	10.0	post-surge brown cloudy
"	75	7.48	116	419	10.0	"
"	80	7.56	116	280	10.0	"
"	82	7.50	116	585	10.0	post-surge brown
"	85	7.62	116	511	10.0	"
22 Jan 98	90	7.64	117	600	9.8	brown/cloudy
"	95	7.62	116	403	9.9	"
"	100	7.56	116	145	10.0	"
"	102	7.63	116	540	10.0	post-surge cloudy/brown
"	105 100	7.58	116	332	10.00	post-surge cloudy/brown
"	110	7.49	116	209	10.0	"
"	115 110	7.53	116	141	10.0	cloudy
"	120	7.57	116	82.1	10.0	fairly clear
"	125	7.63	116	207	10.0	post-surge cloudy

PROJECT NAME: MMR DATE INSTALLED: 04 Nov 97 WELL NUMBER: _____

PROJECT NUMBER: 313000103 DEVELOPER: RG MW130

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVA

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 225 (ft)

WATER LEVEL (h) 76.19 (ft)

WATER COLUMN (b-h) 148.81 (ft)

WELL VOLUME ~37 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/

COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
19 Jan 98	35	8.07	156	off-scale	8.9°	Brown silty
	65	8.03	157	off-scale	8.9°	"
	95	7.91	157	940	8.9°	"
	125	8.20	159	647	9.1	"
	155	8.22	159	353	9.2	cloudy/gray
	185	8.14	158	321	9.2	"
	215	8.02	157	243	9.2	"
	245	7.89	156	175	9.1	"
	275	8.01	156	135	9.1	"
	305	7.77	156	109	9.1	"



WELL DEVELOPMENT DATA

2 of 3

PROJECT NAME: MMR DATE INSTALLED: 04 Nov 97 WELL NUMBER: MM13DPROJECT NUMBER: 313000103 DEVELOPER: RC

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
19 Jan 98	335	7.75	156	103	9.1	cloudy/ gray
f	365	7.89	156	099	9.1	"
	395	7.77	156	098	9.1	"
	425	7.62	156	086	9.1	"
	455	7.64	156	082	9.1	slightly cloudy
	485	7.56	156	071	9.1	"
	515	7.85	157	58.2	9.1	"
	545	7.82	157	51.1	9.1	"
	575	7.71	157	47.8	9.1	"
	605	7.73	157	49.2	9.1	"
	635	7.89	157	46.3	9.1	"
20 Jan 98	650	7.97	157	798	9.0	post surge 0820 gray/silty
f	680	7.92	157	291	9.0	"
	710	7.96	157	163	9.1	gray/silty
	740	7.90	157	099	9.0	post-surge slightly cloudy



WELL DEVELOPMENT DATA

3 of 3

PROJECT NAME: MMR DATE INSTALLED: 04 Nov 97WELL NUMBER: MW13DPROJECT NUMBER: 313000103 DEVELOPER: RT

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
20 Jun 98	770	7.90	157	73.6	9.0	slightly gray/cloudy
	800	7.82	157	64.4	9.0	"
	830	7.84	157	58.7	9.1	"
	860	7.87	157	53.4	9.0	"
	890	8.01	157	47.2	9.0	"
	920	8.03	157	47.0	9.0	1120 post surge "
	950	7.90	157	42.6	9.0	1140 fairly clear
	980	7.96	157	31.9	9.0	1200 "
	1010	7.98	157	30.2	9.0	"
	1030	7.97	157	27.9	9.0	"
	1060	8.01	157	27.2	9.0	"
	1090	8.00	157	24.2	9.0	"
	1120	7.96	157	25.4	9.0	"
	1150	7.98	157	24.3	9.0	"

PROJECT NAME: MMR DATE INSTALLED: 7-28-97 WELL NUMBER: MW-145
 PROJECT NUMBER: 313000103 DEVELOPER: W. Gallagher
 REMARKS: _____

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT _____
 SUBMERSIBLE PUMP _____
 OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL:
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)
 DEPTH OF WELL (b) 109.0 (ft)
 WATER LEVEL (h) 102.33 (ft)
 WATER COLUMN (b-h) 6.67 (ft)
 WELL VOLUME 1.3 Gal (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
8/20/97	2 Gal	6.34	57.5 $\mu S/cm$	off-scale	16.7°	Brown/slow recharge. Pumping Rate @ 0.5 GPM
"	5 Gal	5.91	47.2 $\mu S/cm$	360 NTU	12.9°	Pumping Rate Increase to 1 GPM After Bulk of Silts removed
"	7 Gal	5.63	52.4 $\mu S/cm$	332 NTU	13.6°	Pumping Rate Drops to 0.5 GPM
"	10 Gal	5.85	49.1 $\mu S/cm$	279 NTU	13.8°	Pumping Rate @ 0.5 GPM
"	12 Gal	5.54	47.3 $\mu S/cm$	247 NTU	13.1°	"
"	17 Gal	5.52	46.8 $\mu S/cm$	284 NTU	13.1°	"
"	20 Gal	5.45	47.5 $\mu S/cm$	309 NTU	13.4°	"
8-21-97	24 Gal	6.27	74.9 $\mu S/cm$	53.7 NTU	13.1°	Switched to Gravelless pump
"	30 Gal	6.28	55.5 $\mu S/cm$	22.7 NTU	12.3°	Pumping Rate @ 1.5 GPM
"	40 Gal	5.91	54.1 $\mu S/cm$	13.7 NTU	12.3°	clear

WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: MMR DATE INSTALLED: 7-28-87

WELL NUMBER: MW-145

PROJECT NUMBER: 313000103 DEVELOPER: W. Gallagher

REMARKS: _____

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-17-97 WELL NUMBER: MW-155

PROJECT NUMBER: 313000103 DEVELOPER: W.G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Arch Well development Pump.

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5' (in)

DEPTH OF WELL (b) 148 (ft)

WATER LEVEL (h) 107.11 (ft)

WATER COLUMN (b-h) 10.89 (ft)

WELL VOLUME 2.7 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9-19-97	3 Gal	6.53	118 $\mu S/cm$	off-scale	15.2°	Pumping Rate @ 1 Gpm Brown
9-19-97	10 Gal	6.49	117.7 $\mu S/cm$	434 NTU	14.7°	Surge well with pump
9-19-97	20 Gal	6.23	101.9 $\mu S/cm$	off-scale	14.7°	Lt Brown/Pumping Rate @ 1.0 Gpm
9-19-97	30 Gal	6.34	97.3 $\mu S/cm$	280 NTU	14.8°	Reddish Brown Surge well with pump
9-19-97	50 Gal	6.32	88.3 $\mu S/cm$	256 NTU	14.8°	Reddish Brown
9-19-97	65 Gal	6.22	87.2 $\mu S/cm$	239 NTU	15.1°	Surge well with pump
9-19-97	80 Gal	6.27	84.7 $\mu S/cm$	276 NTU	15.3°	"
9-19-97	90 Gal	6.18	82.2 $\mu S/cm$	410 NTU	15.4°	"
9-19-97	100 Gal	6.17	80.7 $\mu S/cm$	121 NTU	15.6°	Clear
9-19-97	110 Gal	6.20	81.0 $\mu S/cm$	82.3 NTU	16.2°	"

2 of 2

REMARKS: _____

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: _____ WELL NUMBER: 15 D
 PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer MW-15 D
 REMARKS: _____ 32

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT (Evac.) _____
 SUBMERSIBLE PUMP _____
 OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL -
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 334 (ft)
 WATER LEVEL (h) 107.15 (ft)
 WATER COLUMN (b-h) 226.85 (ft)
 WELL VOLUME 56.7 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
9/24/97	25	7.07	103 μ S/cm	141 NTU	10.6°	Evac. Air lift Rate 2.8 GPM
"	60	7.19	104 μ S/cm	34.6 NTU	10.7°	
"	100	7.37	101 μ S/cm	24.9 NTU	10.5°	
"	170	7.18	105 μ S/cm	8.9 NTU	10.6°	
"	230	7.28	97.9 μ S/cm	7.03 NTU	10.6°	
"	290	7.03	96.2 μ S/cm	4.79 NTU	11.0°	
"	350	7.06	95.2 μ S/cm	4.01 NTU	11.1°	
"	410	7.09	95.2 μ S/cm	3.58 NTU	11.0°	
"	480	7.14	94.9 μ S/cm	3.04 NTU	11.0°	
"	570	7.07	94.7 μ S/cm	3.39 NTU	11.0°	

PROJECT NAME: MMR Impact Area DATE INSTALLED: _____ WELL NUMBER: 15 D

PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer MW-15D
SR

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT (Eval.)

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 334 (ft)

WATER LEVEL (h) 107.15 (ft)

WATER COLUMN (b-h) 226.85 (ft)

WELL VOLUME 56.7 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/24/97	25	7.07	103 μ S/cm	141 NTU	10.6°	Eval. Air lift Rate 2.8 GPM
"	60	7.19	104 μ S/cm	34.6 NTU	10.7°	
"	100	7.37	101 μ S/cm	24.9 NTU	10.5°	
"	170	7.18	105 μ S/cm	8.9 NTU	10.6°	
"	230	7.28	97.9 μ S/cm	7.53 NTU	10.6°	
"	290	7.03	96.2 μ S/cm	4.79 NTU	11.0°	
"	350	7.06	95.2 μ S/cm	4.01 NTU	11.1°	
"	410	7.09	95.2 μ S/cm	3.58 NTU	11.0°	
"	480	7.14	94.9 μ S/cm	3.04 NTU	11.0°	
"	570	7.07	94.7 μ S/cm	3.39 NTU	11.0°	

PROJECT NAME: M M R DATE INSTALLED: _____ WELL NUMBER: MW14

PROJECT NUMBER: 313-000-103 DEVELOPER: RP

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP X

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) \text{ FT} \cdot .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.25 (in)

DEPTH OF WELL (b) 135 (ft)

WATER LEVEL (h) 131.81 (ft)

WATER COLUMN (b-h) 3.19 (ft)

WELL VOLUME 1.821 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY uS/cm	TURBIDITY (NTU)	TEMP (C)	
11/3/97	1.0	-	505	>80	-	Slightly brown
	2.0	-	499	off scale	-	11
	3.0	-	489	"	-	11
	4.0	-	482	>1000	-	11
	5.0	-	480	"	-	11
	6.0	-	472	"	-	11
	7.0	-	468	"	-	11
	8.0	-	465	"	-	11
	9.0	-	440	"	-	11
N	10.0	-	438	"	-	11

PROJECT NAME: M M R DATE INSTALLED: 10/15/17 WELL NUMBER: MW165
 PROJECT NUMBER: 313000103 DEVELOPER: RS
 REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
11/3	11	—	432	695	—	silty/ brown
1	13	—	412	662	—	"
1	15	—	405	718	—	"
	17	—	389	724	—	"
	19	—	382	736	—	"
	21	—	376	714	—	"
	23	—	351 379 RP	668 727 RP	—	"
	25	—	336	546	—	"
	27	—	327	541	—	"
	29	—	328	503	—	"
	31	—	327	166	—	"
	33	—	326	263	—	"
	35	—	321	272	—	"
	37	—	323	256	—	"
11/3	39	—	321	255	—	"

PROJECT NAME: MNR DATE INSTALLED: 10/15/17 WELL NUMBER: MW 16
 PROJECT NUMBER: 313000103 DEVELOPER: RP
 REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
11/3	41	—	316	377	—	Silty/ brown
	43	—	307	400	—	..
	45	—	308	386	—	..
	47	—	312	342	—	..
	49	—	306	307	—	..
	51	—	310	279	—	..
Grind for Sw itch	53	—	300	>1000	—	..
	55	—	296	..	—	..
	57	—	322	..	—	..
	59	—	320	..	—	..
	61	—	298	663	—	..
	63	—	287	528	—	..
	65	—	285	467	—	..
	67	—	270	346	—	..
	69	—	275	337	—	..
✓						



WELL DEVELOPMENT DATA

4 of 13

PROJECT NAME: MMR DATE INSTALLED: 10/15/97 WELL NUMBER: mw16PROJECT NUMBER: 313000103 DEVELOPER: RP

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
11/3/97	71	-	272	293	-	slight silt/ brown
	73	-	266	352	-	"
	75	-	266	346	-	"
	77	-	265	338	-	"
	79	-	264	336	-	"
	81	-	263	319	-	"
	83	-	266	329	-	"
	85	-	261	365	-	"
	87	-	259	429	-	"
	89	-	258	440	-	"
	91	-	258	450	✓	"
	93	-	245	360	-	"
	95	-	237	352	-	"



WELL DEVELOPMENT DATA 5 of 13

PROJECT NAME: MMR DATE INSTALLED: 10/15/97 WELL NUMBER: MW16
PROJECT NUMBER: 313000103 DEVELOPER: RP/RG
REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
11/4	30	7.34	173	1105	12.89	Brown / Silty
	32	7.74	167	1140	12.50	"
	34	8.26	161	1139	12.40	"
	36	8.27	159	1126	12.23	"
	38	8.29	154	1204	12.19	"
	40	8.28	153	1196	12.21	"
	42	8.30	153	1187	12.18	"
	44	8.30	150	1179	12.18	"
	46	8.30	146	1178	12.18	"
	48	8.35	131	1102	12.62	"
	50	8.30	127	1100	12.70	"
	52	8.29	125	1099	12.79	"
	54	8.27	121	1097	12.86	"
	56	8.24	114	1095	12.76	
	58	8.19	110	982	13.04	
✓						



WELL DEVELOPMENT DATA

6 of 13

PROJECT NAME: MMR DATE INSTALLED: 10/15/97 WELL NUMBER: MW165PROJECT NUMBER: 313000103 DEVELOPER: RP/RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
11/4/97	60	8.17	105	898	12.81	Brown/ Silty
	62	8.17	104	919	12.73	"
	64	8.17	103	902	12.73	"
	66	8.17	102	906	12.69	"
	68	8.26	126	1106	12.72	"
	70	8.20	120	1116	12.72	"
	72	8.17	116	1092	12.72	"
	74	8.26	115	1196	12.69	"
	76	8.23	115	1192	12.71	"
	78	8.24	114	1127	11.26	"
	80	8.16	113	1078	11.29	"
	82	8.19	110	980	12.61	"
	84	8.11	102	774	12.51	"
	86	8.16	98	754	"	"
	88	8.21	94	667	"	"
V						



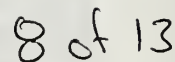
WELL DEVELOPMENT DATA

7 of 13

PROJECT NAME: MMR DATE INSTALLED: 10/15/97 WELL NUMBER: MW 165PROJECT NUMBER: 313000103 DEVELOPER: RP/RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
11/4	90	8.24	94	779	13.85	Brown/ slight salt
	92	7.99	91	662	13.38	"
	94	7.95	90	661	13.16	"
	96	7.96	89	663	13.01	"
	98	7.94	88	723	12.90	"
	100	7.94	89	675	13.03	"
	102	7.96	87	644	13.09	"
	104	7.96	87	645	12.80	"
	106	7.96	86	730	12.54	"
	108	"	85	682	12.46	"
	110	"	86	710	12.55	"
	112	"	85	693	12.36	"
	114	7.94	85	660	12.42	"
	116	"	84	719	12.23	"
	118	7.92	84	705	12.22	"



REMARKS: _____

[illegible]



WELL DEVELOPMENT DATA

9 of 13

PROJECT NAME: MMR DATE INSTALLED: 10/15/97WELL NUMBER: MW16PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
05 Nov 97	10		124	1132		Brownish/ silty
	12		116	1026		"
	15		108	1178		"
	20		89	867		"
	25		88	675		"
	30		90	676		"
	32		87	714		"
	34		90	675		"
	36		90	632		slightly brownish/ slight silt
	38		89	624		"
	40		87	745		"
	42		89	768		"
	44		89	739		"
	46		87	835		Brownish silty
	48		87	837		"



WELL DEVELOPMENT DATA

10 of 13

PROJECT NAME: mmr DATE INSTALLED: 10/15/97 WELL NUMBER: 165PROJECT NUMBER: 313000103 DEVELOPER: LC

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
05 Nov 97	50		89	910		Brownish / silty
/	55		91	870		"
	57		92	863		"
	60		92	851		"
	65		95	739		"
	70		93	770		"
	80	6.8	94	802	15.8	"
	85	6.9	87	776	15.2	"
	87	6.9	86	820	13.8	"
	89	6.8	86	803	13.5	"
	91	6.7 6.7	85	855	13.8	"
	93	6.8	86	821	13.6	"
	95	6.8	86	775	13.8	"
	97	6.9	84	785	14.4	"
	99	6.7	83	807	14.6	"



WELL DEVELOPMENT DATA

11 of 13

PROJECT NAME: MMR DATE INSTALLED: 15 Oct 97 WELL NUMBER: MW16PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
05 Nov 97	101	7.2	82	819	14.4	Brown/ silty
"	110	7.3	83	844	14.3	"
"	115	6.9	81	842	13.9	"
"	120	7.0	80	865	13.2	"
"	125	7.2	82	916	13.1	"
"	130	7.1	82	806	13.1	"
"	135	7.2	80	845	13.2	"
"	140	7.2	80	815	12.7	"
"	145	7.0	81	844	12.3	"
"	150	7.1	81	845	12.5	"
"	152	7.2	81	798	12.2	"
"	154	7.1	80	838	12.3	"
"	156	7.1	81	800	12.5	"
06 Nov 97						



WELL DEVELOPMENT DATA

12 of 13

PROJECT NAME: MMR DATE INSTALLED: 150c + 97 WELL NUMBER: MW165PROJECT NUMBER: 343000103 DEVELOPER: LG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
06 Nov 7	5	6.8	111	1270	15	Brown/silty
1	10	6.9	85	659	12.5	"
	15	7.0	78	505	12.0	"
	20	7.0	80	456	12.7	"
	22	7.0	81	462	12.5	"
	24	7.1	79	446	12.5	"
	26	7.0	80	443	12.6	slightly brown/silty
	30	7.0	78	442	12.7	"
	35	7.0	79	444	12.5	"
	40	7.1	78	517	12.3	"
	42	7.0	79	521	12.3	"
	44	7.0	77	486	12.5	"
	50	6.9	78	497	12.4	"
	55	7.0	79	505	12.4	"
	60	8.58*	77	510	12.3	"

*first pH reading using Orion unit

PROJECT NAME: mmR DATE INSTALLED: 15 Oct 97 WELL NUMBER: MW16D

PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT X

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \text{_____ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \text{_____ GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.25 (in)

DEPTH OF WELL (b) 360 (ft)

WATER LEVEL (h) 132.41 (ft)

WATER COLUMN (b-h) 227.59 (ft)

WELL VOLUME ~57 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
05 Nov 97	30	7.5	100	980	10.8	Grey, milky
"	40	7.5	97	491	10.2	"
"	65	7.3	88	950	10.7	"
"	75	7.0	83	250	10.8	fairly lucid slight grey color
"	90	6.9	82	198	10.8	"
"	150	7.0	80	48	10.8	"
"	180	6.9	74	36	10.2	appears completely lucid
"	220	6.9	75	35	10.1	"
06 Nov 97	240	7.0	80	30	9.8	"
"	300	7.1	82	23	9.7	"



WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: MMR DATE INSTALLED: 15 Oct 97 WELL NUMBER: MW161

PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
06 Nov 97	360	7.0	82	12	9.8	clear
"	420	7.0	79	18	10.3	"
"	480	7.0	78	15	10.4	"
"	540	7.1	81	15	10.6	"
"	600	7.0	79	15	10.7	"
"	620	8.0*	79	13	10.6	"
"	640	7.86	77.8 78	14	10.4	"
"	660	7.95	77	15	10.4	"
"	680	7.85	77	17	10.2	"
"	690	7.86	78	16	10.2	"

*1st measurement w/ Orion meter

PROJECT NAME: Impact Area DATE INSTALLED: _____ WELL NUMBER: 175

PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer MW-175
JR

REMARKS: Extremely Silty Recoveries

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Arch Well Dev. Pump

SUBMERSIBLE PUMP _____

OTHER Water/recipricating

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{2.6} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

$$2.5" \text{ well vol.} = .25 * \text{column}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 133.71' (ft)

WATER LEVEL (h) 123.30 (ft)

WATER COLUMN (b-h) 10.4' (ft)

WELL VOLUME 2.6 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/5/97	6 gal.	8.51	331 $\mu S/cm$	Off Scale	14°C	Dark greyish-brown Watera pump rate
"	20 gal.	7.29	168	Off Scale	12.2°C	estimate: 1.0 gpm
"	40 gal.	7.13	147	Off Scale	12.0°C	
"	60 gal.	6.98	122	825 NTU	12.1°C	
"	80 gal.	6.77	111	955 NTU	12.1°C	estimated pump rate .8 gpm
"	100 gal.	6.73	93	835 NTU	12.6°C	
"	120 gal.	6.59	91	975 NTU	12.1°C	Light greyish brown
"	130 gal.	6.53	87	896 NTU	12.2°C	End Watera pumping
9/17/97	140 gal.	6.40	302 $\mu S/cm$	715 NTU	12.6°C	Light Grey. Pumping ~ 0.16 gpm
9/17/97	150 gal.	6.62	126 $\mu S/cm$	707 NTU	12.7°C	"

WELL DEVELOPMENT DATA

PROJECT NAME: MTR Impact Area DATE INSTALLED: _____ WELL NUMBER: MU-175

PROJECT NUMBER: 31300103 DEVELOPER: W.G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Arch Well dev. Pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) _____ (in)

DEPTH OF WELL (b) _____ (ft)

WATER LEVEL (h) _____ (ft)

WATER COLUMN (b-h) _____ (ft)

WELL VOLUME _____ (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/17/97	160 Gal	6.50	110 $\mu S/cm$	652 NTU	12.7°	Light Gray / Pumping ~ 0.25 GPM
9/17/97	170 Gal	6.48	116 $\mu S/cm$	625 NTU	12.8°	"
9/17/97	180 Gal	6.76	108.3 $\mu S/cm$	250 NTU	12.8°	"
9/17/97	190 Gal	6.65	112.4 $\mu S/cm$	331 NTU	12.8°	"
9/17/97	200 Gal	6.49	107.6 $\mu S/cm$	250 NTU	12.7°	"
9/17/97	210 Gal	6.75	110.3 $\mu S/cm$	280 NTU	12.8°	"
9/17/97	220 Gal	6.68	112.2 $\mu S/cm$	268 NTU	12.8°	"
9/17/97	230 Gal	6.55	109.3 $\mu S/cm$	158 NTU	12.7°	Dropped pumping Rate to 0.16 GPM
9/17/97	233 Gal	6.59	108.7 $\mu S/cm$	170 NTU	12.8°	Light Gray
9/17/97	235 Gal	6.63	107.6 $\mu S/cm$	169 NTU	12.8°	"

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-17-97 WELL NUMBER: MW-175

PROJECT NUMBER: 313000103 DEVELOPER: W.G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Arch Well dev. Pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) _____ (in)

DEPTH OF WELL (b) _____ (ft)

WATER LEVEL (h) _____ (ft)

WATER COLUMN (b-h) _____ (ft)

WELL VOLUME _____ (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9-17-97	237 Gal	6.75	109.3 $\mu S/cm$	111 NTU	12.7°	Light Gray
"	238 Gal	6.66	111.5 $\mu S/cm$	125 NTU	12.8°	"
"	241 Gal	6.63	112.0 $\mu S/cm$	129 NTU	12.8°	"
"	243 Gal	6.56	113.2 $\mu S/cm$	127 NTU	12.7°	"
"	245 Gal	6.72	114.0 $\mu S/cm$	128 NTU	12.8°	"
"	250 Gal	6.58	112.7 $\mu S/cm$	130 NTU	12.7°	"

PROJECT NAME: Impact Area DATE INSTALLED: _____ WELL NUMBER: 17
 PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer Deep
 REMARKS: _____ MW17D

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT (Evac.)
 SUBMERSIBLE PUMP _____
 OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL - 2.5' well vol. = .25 * column ht.
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

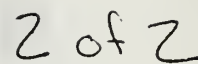
WELL DIAMETER (d) 2.5" (in)
 DEPTH OF WELL (b) 336.8' (ft)
 WATER LEVEL (h) 124.82 (ft)
 WATER COLUMN (b-h) 212' (ft)
 WELL VOLUME 53 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/5/97	5 gal	8.26	260 $\mu S/cm$	Off Scale	12.1°C	Grey-Brown Airlift pump rate
"	20 gal.	7.36	181	951 NTU	11.3°C	approx. 1.5 gpm
"	40 gal.	7.50	163	576 NTU	11.2°C	
"	70 gal.	7.35	156	188 NTU	11.2°C	pump rate est. 2.5 gpm
"	100 gal.	7.43	151	148 NTU	11.2°C	
"	140 gal.	7.49	151	124 NTU	11.2°C	
"	180 gal.	7.49	150.3	114 NTU	11.4°C	Hazy
"	210 gal.	7.51	142.9	78.7 NTU	11.1°C	pump rate est. 1.7 gpm
"	230 gal.	7.28	141.3	53.8 NTU	11.4°C	
"	260 gal.	7.19	138.4	40.9 NTU	11.5°C	



REMARKS: Air lift pump was turned off for 15 min. at 360 gal., accounts for Turbidity change.

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9-09-87 WELL NUMBER: M4-18-

PROJECT NUMBER: 313000103 DEVELOPER: W.G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfos

OTHER Inertial Pump

WELL VOLUME CALCUATIONS:

 $3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 48.01 (ft)

WATER LEVEL (h) 42.07 (ft)

WATER COLUMN (b-h) 5.94 (ft)

WELL VOLUME 1.48 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
9-15-87	1.5 Gal	6.73	460 $\mu S/cm$	off-scale	14.7°C	Brown/Silty
"	3.0 Gal	7.04	399 $\mu S/cm$	"	12.8°C	Pumping Rate @ ~ 0.3 GPM
"	4.5 Gal	7.20	372 $\mu S/cm$	"	12.6°C	Pumping Rate drops to ~ 0.2 GPM
"	6.0 Gal	7.17	356 $\mu S/cm$	"	12.3°C	"
"	7.5 Gal	7.21	340 $\mu S/cm$	"	12.5°C	"
"	9.0 Gal	7.18	327 $\mu S/cm$	"	12.4°C	"
"	10.5 Gal	6.83	309 $\mu S/cm$	"	12.4°C	"
"	12.0 Gal	7.01	285 $\mu S/cm$	"	12.6°C	"
"	13.5 Gal	7.00	275 $\mu S/cm$	"	12.5°C	"
"	15.0 Gal	6.79	250 $\mu S/cm$	695 NTU	13.5°C	

PROJECT NAME: MAR Impact Area DATE INSTALLED: 9-09-97 WELL NUMBER: MW-185

PROJECT NUMBER: 315000103 DEVELOPER: W.G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP Grundfoss

OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) _____ (in)

DEPTH OF WELL (b) _____ (ft)

WATER LEVEL (h) _____ (ft)

WATER COLUMN (b-h) _____ (ft)

WELL VOLUME _____ (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9-15-97	16.5 Gal	6.65	236 $\mu S/cm$	836 NTU	12.7°	Brown
9-16-97	19 Gal	6.43	293 $\mu S/cm$	793 NTU	12.2°	"
9-16-97	22 Gal	6.48	223 $\mu S/cm$	802 NTU	11.3°	"
9-16-97	25 Gal	6.60	207 $\mu S/cm$	590 NTU	11.5°	
9-16-97	28 Gal	6.70	198 $\mu S/cm$	471 NTU	11.5°	
9-16-97	32 Gal	6.68	190 $\mu S/cm$	368 NTU	11.6°	
9-16-97	40 Gal	6.46	205 $\mu S/cm$	102 NTU	13.6°	Switch to Grundfoss Submersible pump Rate @ 0.5 GPM
9-16-97	45 Gal	6.73	172.1 $\mu S/cm$	53.2 NTU	13.9°	Clear H Brown W.G.
9-16-97	50 Gal	6.08	174 $\mu S/cm$	36.4 NTU	14.0	Clear
9-16-97	55 Gal	6.03	172.0 $\mu S/cm$	28.5 NTU	13.9°	"

PROJECT NAME: MNR DATE INSTALLED: _____ WELL NUMBER: RD

PROJECT NUMBER: 33 000 103 DEVELOPER: _____ MW-18 D

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP 6 in lbs

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \text{GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * 25 = 58.5 \text{ GAL} \times 10 = 585$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 275 (ft)

WATER LEVEL (h) 40.55 (ft)

WATER COLUMN (b-h) 234.12 (ft)






WELL VOLUME 58.5 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
12-Sep-97	0"	6.50	144	93.5	13.10°	Brown silty
	50"	6.25	125	109.4	12.9°	clear up.
	100"	6.27	122	45.1	13.5	very clear
	150"	6.17	118	38.7	13.8°	" "
	200"	6.30	118	36.5	12.9	" "
	250"	6.79	117	31.8	12.4	very clear
	300"	6.67	117	31.9	13.1	stagnant (NTU)
	350"	6.84	114	31.7	13.2	clear
	400"	6.89	110	45.2	13.9	Turbidity went up
	450"	7.00	108	40.4	13.7	

2 of 4

PROJECT NUMBER: 83002/03 DEVELOPER: MW-18D

REMARKS:

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4)FT * (b-h)FT * 7.48 = \underline{\hspace{2cm}} \text{ GAL}$$

OVERPUMPAGE _____

OR FOR 2" WELL.

(b-h) FT * .16 = _____ GAL

DAILER _____

WELL PARAMETERS:

SURGE BLOCK _____

WELL DIAMETER (d) 2.5 (in)

AIR LIFT _____

DEPTH OF WELL (b) 275 (f)

SUBMERSIBLE PUMP Exhaust

WATER LEVEL (ft) 90.58 (ft)

OTHER _____

WATER COLUMN (b-h) 239.1 (ft)

WELL VOLUME 58.5 (gal)

WATER QUALITY:

COMMENTS/
COLOR

DATE _____

CUMULATIVE
VOLUME (gal)

pH

CONDUCTIVITY

TURBIDITY
(NTU)

TEMP
(C)

125,97

550

2.14

107

285

13.4

clear 1.58041

12597

600

6.94

10.6

27.5

13.7

11 11

VS 97

67

701

102

20.3

13.1

Intelligence is stored
Very Low

PROJECT NAME: MME Impact Area DATE INSTALLED: 9-9-97 WELL NUMBER: MW-18D

PROJECT NUMBER: 3/3000/03 DEVELOPER: W.G.

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/16/97	³⁰⁶ 680 Gal	7.24	126.8 μ S/cm	126 NTU	13.5°	Clear/Pumping Rate @ 1.46 PM
9/16/97	⁶⁰⁶ 710 Gal	7.08	117.9 μ S/cm	112 NTU	13.8°	Clear/Droped Pumping Rate to 0.16 PM
9/16/97	⁶²⁶ 712 Gal	7.13	116.8 μ S/cm	107 NTU	14.0°	Clear/Increase Pumping Rate to 0.25 GPM
9/16/97	⁷⁰⁶ 714 Gal	7.07	114.6 μ S/cm	134 NTU	13.8°	Clear/ Increase Rate to 0.56 PM
9/16/97	⁸⁰⁶ 760 Gal	7.02	109.5 μ S/cm	113 NTU	13.2°	Clear
9/16/97	⁹⁰⁶ 770 Gal	7.18	105.9 μ S/cm	83.7 NTU	13.2°	"
9/16/97	¹⁰⁰⁶ 780 Gal	7.15	100.5 μ S/cm	70.8 NTU	13.2	"
9/16/97	¹¹⁰⁶ 800 Gal	7.12	110.2 μ S/cm	45.0 NTU	13.2°	Drop pumping Rate to 0.25 GPM
9/16/97	¹²⁰⁶ 820 Gal	7.09	111.2 μ S/cm	33.8 NTU	13.2°	Clear
9/16/97	¹³⁰⁶ 830 Gal	7.07	113.9 μ S/cm	40.2 NTU	13.2°	"
9/16/97	¹⁴⁰⁶ 850 Gal	7.11	113.6 μ S/cm	38.7 NTU	13.2°	"
9/18/97	900 Gal	6.89	165 μ S/cm	265 NTU	13.0°	Switch to Arch Dec. Pump @ 2.6 PM
9/18/97	925 Gal	6.92	114.7 μ S/cm	107 NTU	12.9°	Clear
9/18/97	935 Gal	6.86	103.0 μ S/cm	83 NTU	12.3°	"
9/18/97	950 Gal	6.77	102.7 μ S/cm	52.2 NTU	12.4°	"
9/18/97	960 Gal	6.79	105.3 μ S/cm	37.2 NTU	12.4°	"

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/9/97 WELL NUMBER: 18 Deep
 PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer
 REMARKS: Cumulative Volume is for redevelopment only.

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK ☒

AIR LIFT (Evac)

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) \text{ FT} \cdot .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 275' (ft)

WATER LEVEL (h) 38' (ft)

WATER COLUMN (b-h) 237' (ft)

WELL VOLUME 59.25 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
10/15/97	20 gal.	6.34	138 $\mu\text{S/cm}$	55.2 NTU	10.3°C	Evac. pump flow rate 3.5 GPM
"	50 gal.	6.47	95.0 $\mu\text{S/cm}$	31.0 NTU	10.0°C	Light Haze
"	80 gal.	6.54	93.2 $\mu\text{S/cm}$	351 NTU	10.1°C	Well is surged @ 80 gal. Hazy
"	120 gal.	6.70	92.2 $\mu\text{S/cm}$	82.3 NTU	10.1°C	Well surged @ 150 gal.
"	170 gal.	6.46	94.2 $\mu\text{S/cm}$	930 NTU	10.1°C	Light brown haze
"	210	6.91	93.8 $\mu\text{S/cm}$	114 NTU	10.2°C	
"	250 gal.	6.57	95.3 $\mu\text{S/cm}$	78.5 NTU	10.7°C	Surged @ 280 gal.
"	300 gal.	6.88	93.9 $\mu\text{S/cm}$	122 NTU	10.3°C	
"	350 gal.	7.00	94.5 $\mu\text{S/cm}$	59.8 NTU	10.3°	Clear
"	400 gal.	7.06	93.2 $\mu\text{S/cm}$	41.5 NTU	10.0°	



WELL DEVELOPMENT DATA 2 of 2

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/9/97WELL NUMBER: 18D_{eq}PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: _____

DEVELOPMENT LOG

WATER QUALITY

COMMENTS/
COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
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10/15/97	450 gal.	6.68	94.5 μ S/cm	26.5 NTU	10.3°C	clear
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"	490 gal.	6.88	94.3 μ S/cm	28.2 NTU	10.1°C	
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"	540 gal.	6.92	95.4 μ S/cm	60.5 NTU	10.7°	
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"	580 gal.	7.17	94.0 μ S/cm	19.2 NTU	10.3°	
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"	610 gal.	7.26	93.9 μ S/cm	18.3 NTU	10.2°	
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"	640 gal.	7.39	94.6 μ S/cm	13.2 NTU	10.4°	
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"	670 gal.	7.46	94.8 μ S/cm	10.8 NTU	10.4°	
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"	700 gal.	7.49	94.7 μ S/cm	10.4 NTU	10.4°	
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"	730 gal.	7.48	94.8 μ S/cm	10.0 NTU	10.2°	clear
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OGDEN**WELL DEVELOPMENT DATA**PROJECT NAME: MMR DATE INSTALLED: 20 Nov 97 WELL NUMBER: 4PROJECT NUMBER: 313000103 DEVELOPER: RG MW18M1

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVAC

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS: $3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

 $(b-h) FT * .16 =$ _____ GAL**WELL PARAMETERS:**WELL DIAMETER (d) 2.5 (in)DEPTH OF WELL (b) 176 (ft)WATER LEVEL (h) 42.66 (ft)WATER COLUMN (b-h) 133.34 (ft)WELL VOLUME 33.33 (gal)**DEVELOPMENT LOG:****WATER QUALITY:****COMMENTS/
COLOR**

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
15 Jan 98	35	7.79	153	8.3	8.9	post-surge 1377 clear
	70	7.82	153	6.2	9.1	post-surge 1403 "
	105	7.77	153	3.1	9.2	post-surge 1418 "
	140	7.69	153	3.2	9.1	1444 clear
	175	7.64	153	1.8	9.1	1470 "
	210	7.62	153	1.7	9.0	"
	245	7.61	153	1.9	9.0	"
	280	7.66	153	1.9	9.0	"
	315	7.62	153	1.7	9.0	"
	350	7.62	153	1.5	9.0	"

PROJECT NAME: MMR DATE INSTALLED: 20 Nov 97 WELL NUMBER: MW18M2
 PROJECT NUMBER: 313000103 DEVELOPER: RG
 REMARKS: _____

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT EVAC
 SUBMERSIBLE PUMP _____
 OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL-
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)
 DEPTH OF WELL (b) 112 (ft)
 WATER LEVEL (h) 42.82 (ft)
 WATER COLUMN (b-h) 69.18 (ft)
 WELL VOLUME ~17.3 (gal)

DEVELOPMENT LOG:		WATER QUALITY:				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
15 Nov 98	2025	8.08	153	12.6	9.0	12.10 clear
"	50	8.01	153	7.9	8.3	12.20 " post surge
"	75	7.88	153	8.2	8.2	12.30 " post surge
"	100	7.82	153	13.2	8.2	12.40 " post surge
"	125	7.86	153	12.2	8.4	"
"	150	7.89	153	12.4	8.4	"
"	160	7.88	153	12.5	8.5	"
"	170	7.84	153	13.3	8.5	"
"	180	7.91	153	14.2	8.5	"
"	190	7.87	153	12.4	8.5	"

2 of 2

REMARKS: _____

[illegible]

UGUEN



WELL DEVELOPMENT DATA

26 Feb 98
27 Feb 98
1 of 2

PROJECT NAME: MMR DATE INSTALLED: 2-23-98 WELL NUMBER: MW19

PROJECT NUMBER: 3130000103 DEVELOPER: Jim Ray / Kathy Daddario

REMARKS: 26-27 Feb 98 - SHALLOW WELL = 0.5 gal/min

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT ✓

SUBMERSIBLE PUMP _____

OTHER ARCH PUMP

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{1.48} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 48 (ft)

WATER LEVEL (h) 42.08 (ft)

WATER COLUMN (b-h) 5.92 (ft)

WELL VOLUME 1.5 (gal)

RESUME
PULGING
27 Feb 98
@ 0740
COLLECTION
@ 0745
Flow Rate 0.5 gpm

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/

COLOR
(Flow Rate)
(20.5 gpm)

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/
26 Feb 98						
1845	0	6.8	133.3	599	17.2	LIGHT BROWN
1600	7.5	6.6	154.7	645	15.1	"
1630	22.5	6.1	125.2	92.8	13.3	"
0745	25	6.7	82.1	160.2	11.2	LIGHT BROWN
0815	40	6.7	84.9	OFF SCALE	8.9	DARK BROWN
0845	55	6.6	95.7	208	10.1	LIGHT BROWN
0915	70	6.6	95.3	160	10.9	"
0930	77.5	6.6	94.2	18.3	11.6	PART CLOUDY
0945	85	6.4	99.7	10.7	12.5	CLEAR
1000	92.5	6.4	96.5	47.4	12.3	CLOUDY

27 Feb 98
0740



PROJECT NAME: MMR DATE INSTALLED: 2-23-98 WELL NUMBER: MW19PROJECT NUMBER: 313000103 DEVELOPER: Jim Roy/Kathy DADARIOREMARKS: 26 FEB 98 - TOGG WEL - Flow RATE = 5 gal/min

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT ✓

SUBMERSIBLE PUMP _____

OTHER EVAL

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{63.98} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)DEPTH OF WELL (b) 298 (ft)WATER LEVEL (h) 42.08 (ft)WATER COLUMN (b-h) 255.92 (ft)WELL VOLUME 64 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COLOR (Flow RATE = 5 gpm)
2/24/98						
0745	0	7.36	149.2	234	12.1	Cloudy
0800	75	7.38	145.0	175	11.8	"
0815	150	7.35	141.1	104	11.7	"
0830	225	7.42	140.5	78.5	11.5	"
0845	300	7.48	140.1	76.1	11.7	"
0900	375	7.53	139.2	73.2	11.5	"
0915	450	7.58	134.8	68.4	11.6	"
0930	525	7.60	133.5	53.1	11.5	"
0945	600	7.65	131.2	48.3	11.5	"
1000	675	7.68	130.6	41.5	11.1	"



WELL DEVELOPMENT DATA

20F2
26F6898PROJECT NAME: MMR DATE INSTALLED: 2-23-98 WELL NUMBER: MW19NPROJECT NUMBER: 313000103 DEVELOPER: J. M. Roy / KATHY DARRIOREMARKS: 26 FEB 98 - DEEP WELL - FLOW RATE = 5 gal/min

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR (Flow Rate = 5 gal/min)
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
1015	750	7.69	126.8	52.1	11.5	"
1030	825	7.75	120.5	42.5	11.1	"
1045	900	7.74	116.2	32.5	10.9	"
1100	975	7.71	114.4	28.7	10.7	"
1115	1050	7.79	112.4	27.2	10.6	"
1130	1125	7.85	110.7	25.4	10.5	"
1145	1200	7.86	108.2	24.3	10.6	"
1200	1275	7.88	106.0	18.84	10.5	CUGAR
1215	1350	7.87	106.1	14.40	10.5	"
1230	1425	7.89	106.1	10.84	10.7	"
1245	1500	7.91	105.2	8.90	11.1	"
1300	1575	7.94	104.9	8.22	11.1	"
1315	1650	7.95	104.3	7.61	11.5	"
1330	1725	7.98	104.6	7.20	11.8	"
1345	1800	7.96	104.4	6.14	12.4	"
1400	1875	7.98	104.5	6.20 106.2 (K)	12.7	CUGAR

PROJECT NAME: MMR DATE INSTALLED: 9/25/97 WELL NUMBER: MW28
 PROJECT NUMBER: 31300903 DEVELOPER: Sharon Chittam
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT rich pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 = \text{GAL}$$

OR FOR 2" WELL: For 2.5" well = .25 * (b-h) ft

$$(b-h) \text{ FT} \cdot .16 = \text{GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 102.5 (ft)

WATER LEVEL (h) 95.5 (ft)

WATER COLUMN (b-h) 7 (ft)

WELL VOLUME 1.75 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
10-23-97	5 gallons	6.37	99.4 $\mu\text{S/cm}$	off scale	8.0	Pump Rate = 1/4 gal/min orange/brown
10-23-97	10 gallons	6.11	73.5 $\mu\text{S/cm}$	546	9.4	
10-23-97	15 gallons	6.01	71.0 $\mu\text{S/cm}$	235	9.3	
10-23-97	20 gallons	6.03	69.3 $\mu\text{S/cm}$	off scale	9.4	SAC unit on well surged
10-23-97	25 gallons	6.33	68.8 $\mu\text{S/cm}$	636	9.4	No flow Pump Pressure adjusted
10-23-97	35 gallons	6.26	67.9 $\mu\text{S/cm}$	off scale	9.0	Pump Rate = 1/2 gal/min
10-23-97	45 gallons	6.19	65.2 $\mu\text{S/cm}$	off scale	8.9	orange/brown
10-23-97	55 gallons	6.38	65.2 $\mu\text{S/cm}$	959	9.6	
10-23-97	65 gallons	5.93	65.0 $\mu\text{S/cm}$	off scale	9.6	orange brown
10-23-97	75 gallons	6.19	65.5 $\mu\text{S/cm}$	718	9.6	

PROJECT NAME: MMR DATE INSTALLED: 9/25/97 WELL NUMBER: MW-20

PROJECT NUMBER: 31300903 DEVELOPER: Sharon Chittam

REMARKS: F. F. F. (10-24-97)

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10-23-97	85 gal	6.47	65.0 $\mu\text{S}/\text{cm}$	4.66	9.6	
10-23-97	95 gal	6.41	64.6 $\mu\text{S}/\text{cm}$	off scale	10.0	pump stopped
10-23-97	105 gal	6.20	63.7 $\mu\text{S}/\text{cm}$	off scale	9.9	well surged
10-23-97	115 gal	6.41	63.9 $\mu\text{S}/\text{cm}$	700	9.7	pump rate at 1/4 gal/min
10-23-97	117 gal	6.57	61.5 $\mu\text{S}/\text{cm}$	off scale	8.7	
10-24-97	127 gal	7.42	51.7 $\mu\text{S}/\text{cm}$	140 $\mu\text{S}/\text{cm}$	8.8	rather clear
10-24-97	142 gal	6.29	65.7 $\mu\text{S}/\text{cm}$	39.0 $\mu\text{S}/\text{cm}$	9.0	clearer flow rate
10-24-97	157 gal	5.49	69.8 $\mu\text{S}/\text{cm}$	22.2 $\mu\text{S}/\text{cm}$	8.9	
10-24-97	172 gal	5.41	64.5 $\mu\text{S}/\text{cm}$	13.1 $\mu\text{S}/\text{cm}$	9.4	try to stabilize cloudy
10-24-97	187 gal	4.85	69.1 $\mu\text{S}/\text{cm}$	450 $\mu\text{S}/\text{cm}$	9.8	pulled to low ring after pump fill in well
10-24-97	197 gal	5.24	65.6 $\mu\text{S}/\text{cm}$	321 $\mu\text{S}/\text{cm}$	10.3	
10-24-97	212 gal	5.06	61.7 $\mu\text{S}/\text{cm}$	198 $\mu\text{S}/\text{cm}$	10.6	clearer slowly
10-24-97	227 gal	5.28	61.4 $\mu\text{S}/\text{cm}$	47.7 $\mu\text{S}/\text{cm}$	10.9	very clear
10-24-97	242 gal	5.31	60.6 $\mu\text{S}/\text{cm}$	19.4 $\mu\text{S}/\text{cm}$	10.5	
10-24-97	257 gal	5.28	60.5 $\mu\text{S}/\text{cm}$	13.7 $\mu\text{S}/\text{cm}$	10.5	low

3 of 3

REMARKS: _____

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/22/97 WELL NUMBER: 215

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

REMARKS: New Arch pump used on 10/15/97.

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Arch

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 = \text{GAL}$$

OR FOR 2" WELL-

$$(b-h) \text{ FT} \cdot .16 = \text{GAL}$$

2.5" well = .25" column height.

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 176.5 (ft)

WATER LEVEL (h) 170.50 (ft)

WATER COLUMN (b-h) 6' (ft)

WELL VOLUME 1.5 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10/1/97	11 Gal.	7.86	296 $\mu\text{S}/\text{cm}$	Off Scale	12.6°	Dark brown Estimated pump rate:
"	20 Gal.	7.73	343 $\mu\text{S}/\text{cm}$	Off Scale	12.9°	0.1 GPM on Arch Pump
"	30 Gal.	7.61	303 $\mu\text{S}/\text{cm}$	771 NTU	12.3°	
"	35 Gal.	7.36	279 $\mu\text{S}/\text{cm}$	315 NTU	11.6°	Est pump rate 0.2 GPM
"	40 Gal.	7.36	265 $\mu\text{S}/\text{cm}$	279 NTU	10.7°	Light Brown
"	45 Gal.	7.29	253 $\mu\text{S}/\text{cm}$	264 NTU	10.5°	
"	60 Gal.	6.51	242 $\mu\text{S}/\text{cm}$	247 NTU	10.1°	
10/2/97						No data collected 3 Gallons produced
10/15/97	70 Gal	7.68	236 $\mu\text{S}/\text{cm}$	Off Scale	12.0°	Brown
"	80 Gal.	7.01	218 $\mu\text{S}/\text{cm}$	625 NTU	10.9°	Arch pump rate @ 0.5 GPM



WELL DEVELOPMENT DATA

Page 2 of 84

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/22/97WELL NUMBER: 215PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10/15	90 Gal.	6.83	223 μ S/cm	522 NTU	10.4°	
"	100 Gal.	6.69	228 μ S/cm	483 NTU	11.2°	light + Brown
10/16	110 Gal.	6.20	266 μ S/cm	316 NTU	10.8°	Pump rate @ 0.5 GPM
"	120 Gal.	6.88	221 μ S/cm	387 NTU	10.8°	
"	130 Gal.	6.94	211 μ S/cm	300 NTU	10.7°	
"	140 Gal.	6.77	201 μ S/cm	194 NTU	10.5°	
"	150 Gal.	6.90	209 μ S/cm	212 NTU	10.5°	
"	160 Gal.	6.88	202 μ S/cm	152 NTU	10.4°	
"	170 Gal.	6.79	207 μ S/cm	149 NTU	10.5°	
"	180 Gal.	6.92	204 μ S/cm	145 NTU	10.4°	
"	190 Gal.	6.83	200 μ S/cm	121 NTU	10.7°	
"	200 Gal.	6.81	200 μ S/cm	126 NTU	10.6°	Hazy
"	210 Gal.	6.91	197 μ S/cm	120 NTU	10.8°	
"	220 Gal.	6.87	201 μ S/cm	131 NTU	10.4°	
"	230	6.81	197 μ S/cm	121 NTU	10.8°	

WELL DEVELOPMENT DATA

Page 3 of 84

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/22/97

WELL NUMBER: 215

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer, Sharon Chittam

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10/16	240 Gal.	6.88	204 μ S/cm	365 NTU	10.8°C	Hazy, well is surged at 235 Gallons
"	250 Gal	6.91	201 μ S/cm	187 NTU	10.6°	
"	260 Gal	6.87	204 μ S/cm	166 NTU	10.6°	
"	270 Gal.	6.91	196 μ S/cm	118 NTU	10.7°	
"	280 Gal	6.84	199 μ S/cm	125 NTU	10.7°	
"	290 Gal.	6.93	201 μ S/cm	98.5 NTU	10.7°	Slightly Hazy
"	300 Gal.	6.82	199 μ S/cm	80.2 NTU	10.6°	
"	310 Gal.	6.90	195 μ S/cm	72.8 NTU	10.6°	clear
10/17	320 Gal.	6.13	189 254 μ S/cm	225 NTU	9.8	Hazy
"	330 Gal.	6.47	209 μ S/cm	172 NTU	9.8°	Estimated pump rate @ 0.86 GPM
"	340 gal	6.56	208 μ S/cm	135 NTU	10.1°	
"	350 Gal.	6.54	208 μ S/cm	116 NTU	9.7°	
"	360 Gal.	6.52	199 μ S/cm	71.5 NTU	10.0°	Slightly Hazy
"	370 Gal.	6.64	201 μ S/cm	64.3 NTU	9.7°	
"	380 Gal	6.73	203 μ S/cm	61.5 NTU	10.2°	

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/22/97 WELL NUMBER: 21S

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

MW-21S

REMARKS: New Arch pump used on 10/15/97.

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT Arch

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \text{GAL}$$

OR FOR 2" WELL-

$$2.5" \text{ well} = .25 * \text{column height.}$$

$$(b-h) FT * .16 = \text{GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 176.5 (ft)

WATER LEVEL (h) 170.50 (ft)

WATER COLUMN (b-h) 6' (ft)

WELL VOLUME 1.5 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
10/1/97	11 Gal.	7.86	296 μ S/cm	Off Scale	12.6°	Dark brown Estimated pump rate:
"	20 Gal.	7.73	343 μ S/cm	Off Scale	12.9°	0.1 GPM on Arch Pump
"	30 Gal.	7.61	303 μ S/cm	771 NTU	12.3°	
"	35 Gal.	7.36	279 μ S/cm	315 NTU	11.6°	Est pump rate 0.2 GPM
"	40 Gal.	7.36	265 μ S/cm	279 NTU	10.7°	Light brown
"	45 Gal.	7.29	253 μ S/cm	264 NTU	10.5°	
"	60 Gal.	6.51	242 μ S/cm	247 NTU	10.1°	
10/2/97						No data collected 3 Gallons produced
10/15/97	70 Gal	7.68	236 μ S/cm	Off Scale	12.0°	Brown
"	80 Gal.	7.01	218 μ S/cm	625 NTU	10.9°	Arch pump rate @ 0.5 GPM

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/22/97

WELL NUMBER: 215

PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer

MW-215

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10/15	90 Gal.	6.83	223 μ S/cm	522 NTU	10.4°	
"	100 Gal.	6.69	228 μ S/cm	483 NTU	11.2°	light Brown
10/16	110 Gal.	6.20	266 μ S/cm	316 NTU	10.8°	Pump rate @ 0.5 GPM
"	120 Gal.	6.88	221 μ S/cm	387 NTU	10.8°	
"	130 Gal.	6.94	211 μ S/cm	300 NTU	10.7°	
"	140 Gal.	6.77	201 μ S/cm	194 NTU	10.5°	
"	150 Gal.	6.90	209 μ S/cm	212 NTU	10.5°	
"	160 Gal.	6.88	202 μ S/cm	152 NTU	10.4°	
"	170 Gal.	6.79	207 μ S/cm	149 NTU	10.5°	
"	180 Gal.	6.92	204 μ S/cm	145 NTU	10.4°	
"	190 Gal.	6.83	200 μ S/cm	121 NTU	10.7°	
"	200 Gal.	6.81	200 μ S/cm	126 NTU	10.6°	Hazy
"	210 Gal.	6.91	197 μ S/cm	120 NTU	10.8°	
"	220 Gal.	6.87	201 μ S/cm	131 NTU	10.4°	
"	230	6.81	197 μ S/cm	121 NTU	10.8°	

PROJECT NAME: MMR Impact Area DATE INSTALLED: 9/22/97

WELL NUMBER: 215

PROJECT NUMBER: 313 000 103 DEVELOPER: Tim Dwyer

mw-215

REMARKS: _____

[illegible]

PROJECT NAME: MPR Impact Area DATE INSTALLED: _____ WELL NUMBER: 21000

PROJECT NUMBER: 813000/03 DEVELOPER: W. G.

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVAC Pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 =$ _____ GAL

OR FOR 2" WELL:

$(b-h) \text{ FT} \cdot .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5' (in)

DEPTH OF WELL (b) 315.2 (ft)

WATER LEVEL (h) 179.01 (ft)

WATER COLUMN (b-h) 144.19 (ft)

WELL VOLUME 36.04 (gal)

334.90

140.71

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9-25-97	40 Gal	7.09	196 $\mu\text{S}/\text{cm}$	353 NTU	12.6°	EVAC pump @ 1.6 GPM/Brown
"	80 Gal	7.49	159.2 $\mu\text{S}/\text{cm}$	751 NTU	11.8°	"
"	120 Gal	7.53	143.6 $\mu\text{S}/\text{cm}$	780 NTU	11.5°	"
"	160 Gal	7.38	137.4 $\mu\text{S}/\text{cm}$	689 NTU	11.6°	"
"	200 Gal	7.53	133.3 $\mu\text{S}/\text{cm}$	566 NTU	11.4°	"
"	240 Gal	7.40	128.7 $\mu\text{S}/\text{cm}$	518 NTU	11.2°	"
"	280 Gal	7.43	122.2 $\mu\text{S}/\text{cm}$	453 NTU	11.4°	"
"	320 Gal	7.30	115.3 $\mu\text{S}/\text{cm}$	528 NTU	11.1°	"
9-26-97	360 Gal	6.98	108.0 $\mu\text{S}/\text{cm}$	784 NTU	11.5°	"
"	400 Gal	7.04	104.1 $\mu\text{S}/\text{cm}$	500 NTU	11.4°	"

PROJECT NAME: MMR Impact Area DATE INSTALLED: _____ WELL NUMBER: MW-21D
 PROJECT NUMBER: 313000103 DEVELOPER: W. Gallagher / F. Esquivel
 REMARKS: _____ / T. Dwyer

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT EVac Pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) _____ (in)

DEPTH OF WELL (b) _____ (ft)

WATER LEVEL (h) _____ (ft)

WATER COLUMN (b-h) _____ (ft)

WELL VOLUME _____ (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9-26-97	440 Gal	7.03	104.6 $\mu S/cm$	425 NTU	11.5°	
"	480 Gal	7.04	103.5 $\mu S/cm$	340 NTU	11.4°	
"	520 Gal	6.64	106 $\mu S/cm$	391 NTU	11.9°	Turbidity is up!
"	560 Gal	6.87	104.5 $\mu S/cm$	324 NTU	11.5°	
"	600 Gal	6.48	104.3 $\mu S/cm$	280 NTU	11.7°	
9/29/97	605 Gal.	7.25	315 $\mu S/cm$	off Scale	14.9°	Brown, Est. pump rate 1.0 GPM on Evac.
"	625 Gal.	7.41	243 $\mu S/cm$	825 NTU	14.4°	
"	640	7.63	334 $\mu S/cm$	762 NTU	16.5°	
"	670	7.20	103 $\mu S/cm$	415 NTU	14.7°	
"	700	7.27	98.6 $\mu S/cm$	228 NTU	14.6°	

PROJECT NAME: mmr Impact DATE INSTALLED: 9/24/97 WELL NUMBER: mw22
 PROJECT NUMBER: 313000103 DEVELOPER: Shawn Chittam
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT arch pump

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 = \text{GAL}$$

OR FOR 2" WELL-

$$2.5" \text{ well} = .25 * \text{water column in ft}$$

$$(b-h) \text{ FT} \cdot .16 = \text{GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 180.5 (ft)

WATER LEVEL (h) 176.78 (ft)

WATER COLUMN (b-h) 3.72 (ft)

WELL VOLUME .93 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/
COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
10/20/97	10 gal	5.55	82 $\mu\text{S}/\text{cm}$	off scale	9.9°C	orange/brown 1 gal/min purple
"	20 gal	5.75	84.2 $\mu\text{S}/\text{cm}$	off scale	9.7	light orange/brown
"	30 gal	5.65	81.3 $\mu\text{S}/\text{cm}$	off scale	10.4	orange/brown
"	40 gal	5.99	81.2 $\mu\text{S}/\text{cm}$	off scale	10.0	orange/brown water vol. low
"	50 gal	5.72	81.0 $\mu\text{S}/\text{cm}$	off scale	10.1	pump rate 1/2 gal/min
"	60 gal	5.82	73.5 $\mu\text{S}/\text{cm}$	375	10.2	light orange/brown
"	70 gal	6.02	73.0 $\mu\text{S}/\text{cm}$	205	10.3	cloudy, very light orange/brown
"	80 gal	6.10	71.1 $\mu\text{S}/\text{cm}$	265	10.4	
"	85 gal	6.10	70.9 $\mu\text{S}/\text{cm}$	444	10.9	Pump turned off, well surged
"	90 gal	6.12	73.2 $\mu\text{S}/\text{cm}$	* 45	11.2	Pump turned off- repaired

Pump rate adjusted
many times while

PROJECT NAME: mnr Impact DATE INSTALLED: 9/24/97 WELL NUMBER: MW2

PROJECT NUMBER: 313000103 DEVELOPER: Sharon Chittam

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10/20/97	92 gal	6.40	70.3 $\mu\text{S}/\text{cm}$	72	10.5	Pump Rate = 1/3 gal per min
"	94 gal	6.24	70.5 $\mu\text{S}/\text{cm}$	285	10.7	becoming cloudy/ again
"	96 gal	6.35	70.4 $\mu\text{S}/\text{cm}$	995	11.0	orange/brown
"	98 gal	6.19	70.5 $\mu\text{S}/\text{cm}$	off scale	10.4	
"	100 gal	6.21	69.0 $\mu\text{S}/\text{cm}$	800	10.2	light orange/brown
"	102 gal	6.23	69.9 $\mu\text{S}/\text{cm}$	200	10.7	cloudy
"	104 gal	6.27	70.4 $\mu\text{S}/\text{cm}$	120	10.8	hazy
"	106 gal	5.91	70.6 $\mu\text{S}/\text{cm}$	100	10.9	
"	108 gal	6.20	69.0 $\mu\text{S}/\text{cm}$	485	10.1	Pump stop - re-start surged well
"	109 gal	6.14	68.5 $\mu\text{S}/\text{cm}$	off scale	10.2	orange/brown
"	110 gal	6.35	71.8 $\mu\text{S}/\text{cm}$	616	9.9	light orange/brown
"	111 gal	6.47	72.1 $\mu\text{S}/\text{cm}$	195	9.8	hazy
"	112 gal	6.02	72.1 $\mu\text{S}/\text{cm}$	95	9.8	
"	113 gal	6.24	72.8 $\mu\text{S}/\text{cm}$	74	10.0	
"	114 gal	6.39	72.0 $\mu\text{S}/\text{cm}$	50	9.7	GAC ON
"	116 gal	6.16	72.6 $\mu\text{S}/\text{cm}$	54	9.8	GAC OFF

PROJECT NAME: mmr Impact DATE INSTALLED: 9/24/97 WELL NUMBER: mw22
 PROJECT NUMBER: 313000p3 DEVELOPER: Sharon Chittam
 REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10/20/97	120 gal	6.20	72.9 $\mu\text{S}/\text{cm}$	46	9.9	
10/20/97	125 gal	6.39	72.1 $\mu\text{S}/\text{cm}$	456	9.6	light orange / brown
10/20/97	130 gal	6.50	73.1 $\mu\text{S}/\text{cm}$	156	10.0	hazy/cloudy
10/20/97	135 gal	6.21	72.2 $\mu\text{S}/\text{cm}$	off scale	9.7	brown/orange
10/20/97	140 gal	6.38	73.3 $\mu\text{S}/\text{cm}$	off scale	9.8	same pump off for Day
10/21/97	140 gal	5.64	82.1 $\mu\text{S}/\text{cm}$	399	8.6	light orange / brown flow rate 1/2 gal/min
10/21/97	150 gal	5.25	78.3 $\mu\text{S}/\text{cm}$	434	8.7	
10/21/97	160 gal	5.45	78.2 $\mu\text{S}/\text{cm}$	off scale	9.0	orange / brown
10/21/97	170 gal	5.75	81.2 $\mu\text{S}/\text{cm}$	off scale (1170)	9.9	
10/21/97	180 gal	6.11	81.9 $\mu\text{S}/\text{cm}$	90	10.5	cloudy
10/21/97	190 gal	6.17	78.4 $\mu\text{S}/\text{cm}$	47	10.3	
10/21/97	200 gal	6.26	79.3 $\mu\text{S}/\text{cm}$	103	10.9	
10/21/97	210 gal	6.10	74.5 $\mu\text{S}/\text{cm}$	555	11.0	pump off
10/21/97	220 gal	6.35	77.0 $\mu\text{S}/\text{cm}$	530	11.4	
10/21/97	240 gal	6.46	77.3 $\mu\text{S}/\text{cm}$	259	11.7	
10/21/97	250 gal	6.46	78.0 $\mu\text{S}/\text{cm}$	90	11.8	hazy

PROJECT NAME: MR Impact DATE INSTALLED: 9/24/97 WELL NUMBER: mw22

PROJECT NUMBER: 313000103 DEVELOPER: Sharon Chittam / Rick Giacomini

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY ($\mu S/cm$)	TURBIDITY (NTU)	TEMP (C)	
10/20/97	260 gal	6.40	78.3 $\mu S/cm$	150	11.6	cloudy
10/20/97	270 gal	6.37	78.1 $\mu S/cm$	169	11.7	
10/20/97	280 gal	6.43	78.2 $\mu S/cm$	53	11.8	almost clear
10/20/97	285 gal	6.41	78.6 $\mu S/cm$	30	11.8	clear
"	287 gal	6.31	78.9 $\mu S/cm$	60	11.9	
"	289 gal	6.42	77.5 $\mu S/cm$	410	11.4	light orange brown
"	300 gal	6.58	77.7 $\mu S/cm$	900	11.4	same
11/10/97	305	6.80	82.9	023	9.4	clear
"	310	6.60	81.8	026	9.5	"
"	315	6.59	82.0	010	9.7	"
"	320	6.74	82.4	009	9.7	"
"	325	6.57	81.7	007	9.9	"
"	330	6.59	81.5	007	9.8	"
"	335	6.63	82.5	006	10.0	pump turned off or broken ↓
"	340	6.54	81.0	045	9.9	

WELL DEVELOPMENT DATA

5 of 6

PROJECT NAME: MMR DATE INSTALLED: 24 Sept. 97 WELL NUMBER: MW22

PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
17 Nov 97	345	6.58	81.8	669	10.0	cloudy
"	350	6.62	78.3	212	9.9	still cloudy from pump being reset
"	355	6.54	76.6	287	9.7	"
"	360	6.51	79.1	376	9.8	"
	365	6.50	77.4	625	9.1	cloudy greenish/brown
	370	6.44	78.2	132	9.0	pump flushed out.
	375	6.56	77.9	527	9.0	cloudy
	380	6.51	83.6	026	9.0	pump turned off black run - clear
	385	6.62	83.5	024	9.1	clear
	390	6.56	81.6	020	9.0	"
	395	6.44	81.8	019	9.0	"
	400	6.51	80.4	013	8.9	"
	405	6.63	81.3	009	8.9	"
	410	6.54	80.6	008	9.0	"
	420	6.47	80.9	007	9.0	"

PROJECT NAME: MMR DATE INSTALLED: 24 Sep. 97 WELL NUMBER: MW6
 PROJECT NUMBER: 31300903 DEVELOPER: R L
 REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
17 Nov 97	4125	6.51	80.1	007	9.1	Clear
	430	6.54	80.6	008	9.0	"
	435	6.43	81.0	007	9.0	"
	440	6.47	80.8	007	9.1	"
	445	6.51	81.2	007	9.0	"
	450	6.43	80.7	007	9.0	"
	450	6.59	80.2	007	9.0	"
✓	460	6.61	80.1	008	9.2	"
"	465	6.63	80.1	007	9.0	"
"	475	6.68	80.6	007	9.1	"
"	485	6.71	79.8	006	9.0	"
"	495	6.67	80.3	004	9.0	"
"	505	6.68	80.2	004	9.1	"
"	515	6.83	79.9	004	9.0	"
"	520	6.69	80.0	003	9.0	"

PROJECT NAME: MMR DATE INSTALLED: 7-29-97 WELL NUMBER: MW-235
 PROJECT NUMBER: 312 000103 DEVELOPER: W. Gallagher
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP ☒

OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 135 (ft)

WATER LEVEL (h) 125.87 (ft)

WATER COLUMN (b-h) 911 (ft)

WELL VOLUME 1.8 Gal (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
08/10/97	2 Gal	6.76	102.6 $\mu S/cm$	off-scale	15.8°	Brown, Pumping Rate
"	5 Gal	6.77	70.1 $\mu S/cm$	738 NTU	13.7°	Brown
"	8 Gal	6.73	66.5 $\mu S/cm$	898 NTU	13.3°	Brown/Pumping Rate Drops to 156 PM
"	11 Gal	6.63	64.7 $\mu S/cm$	673 NTU	13.5°	"
"	14 Gal	6.58	63.8 $\mu S/cm$	534 NTU	13.4°	"
"	16 Gal	6.51	63.3 $\mu S/cm$	303 NTU	13.2°	"
"	19 Gal	6.64	63.6 $\mu S/cm$	243 NTU	13.4°	lt Brown
"	24 Gal	6.56	62.7 $\mu S/cm$	197 NTU	13.2°	lt Brown
"	30 Gal	6.52	63.2 $\mu S/cm$	155 NTU	13.5°	lt Brown
"	40 Gal	6.50	62.2 $\mu S/cm$	87.1 NTU	13.1°	Clear

5 6 7 8 9

 $2 \text{ of } 2$

REMARKS: _____

[illegible]

WELL DEVELOPMENT DATA

MW-23
MAD

PROJECT NAME: mmr DATE INSTALLED: _____ WELL NUMBER: mw73

PROJECT NUMBER: _____ DEVELOPER: F. Espinoza

REMARKS: Well Volume = 27.2 g $\times 10$ = 272 gal mw 23 ml
52

[illegible]

PROJECT NAME: MMR Impact DATE INSTALLED: 9/30/97 WELL NUMBER: MW-1
 PROJECT NUMBER: 313000103 DEVELOPER: Shana Chittan m2
 REMARKS: MW-23 - M3 and M1 previously developed

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER ~~grout~~ grout

WELL VOLUME CALCULATIONS:

$$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 = \text{GAL}$$

OR FOR 2" WELL-

$$(b-h) \text{ FT} \cdot .16 = \text{GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2 (in)

DEPTH OF WELL (b) 197 (ft)

WATER LEVEL (h) 126.45 (ft)

WATER COLUMN (b-h) 71 (ft)

WELL VOLUME 11.36 (gal)

Need to pull
113.60 gal

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS: COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10-29-97	12 gal	6.60	66.3	46.5	10.1	Flow Rate 1 1/4 gal/min
10-29-97	24 gal	6.61	60.09 7.82	7.82	10.3	pump lowered
10-29-97	36 gal	6.62	59.0	5.75	10.2	pump repositioned lower
10-29-97	48 gal	6.63	58.7	10.90	10.2	Well surged
10-29-97	60 gal	6.63	58.7	4.35	10.2	
10-29-97	72 gal	6.63	58.9	3.62	10.4	Clear
10-29-97	84	6.63	58.9	3.42	10.4	
10-29-97	96	6.63	59.0	3.37	10.4	
10-29-97	108	6.64	59.0	3.75	10.4	
10-29-97	120	6.64	59.2	3.50	10.5	
10-29-97	132	6.64	59.2	3.54	10.5	clear

SR

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
10-28-97	30 gal	8.70	82.7	off meter	9.7°	Very cloudy
	45 gal	6.75	58.1	919 ntu	9.4°	bubbling down
	60 gal	6.76	57.9	41 ntu	9.7°	clearing
	75 gal	6.58	56.7	38 ntu	9.9°	→
	90 gal	6.67	59.4	764 ntu	11.5°	→
	105 gal	6.68	55.0	55.2 ntu	9.4°	clearing
	120 gal	6.69	55.0	40.0 ntu	10.0	clearing ↓
	135 gal	6.69	55.0	35.2 ntu	9.8°	bubbling
	150 gal	6.70	54.7	40.0 ntu	9.8°	level
	165 gal	6.70	54.5	35.3 ntu	9.0	stable / clearing
	180 gal	6.70	53.4	35.0 ntu	8.8°	stable 2
	195 gal	6.70	52.8	34.4 ntu	8.6°	stable 3
<hr/>						

PROJECT NAME: MMR DATE INSTALLED: 7-29-97 WELL NUMBER: MW-23D

PROJECT NUMBER: 313000/03 DEVELOPER: W. Gallogher

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT ☒

SUBMERSIBLE PUMP ☒

OTHER _____

WELL VOLUME CALCULATIONS:

$$3.14 * (d^2/4) FT * (b-h) FT * 7.48 = \underline{31.6} \text{ GAL}$$

OR FOR 2" WELL-

$$(b-h) FT * .16 = \underline{\hspace{2cm}} \text{ GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 28# (ft)

WATER LEVEL (h) 126.01 (ft)

WATER COLUMN (b-h) 157.89 (ft)

WELL VOLUME 31.6 GAL (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
08/19/97	30 GAL	8.01	201 $\mu S/cm$	—	13.8°	Turbidity way off-scale/Gray
08/19/97	75 GAL	7.90	77 $\mu S/cm$	—	12.5°	Pumping Rate ~ 2.0 GPM
08/19/97	100 GAL	7.74	83 $\mu S/cm$	721 NTU	11.7°	721 NTU/Gray
08/19/97	150 GAL	7.69	85 $\mu S/cm$	744 NTU	12.8°	Gray
08/19/97	175 GAL	7.97	77.7 $\mu S/cm$	855 NTU	12.4°	Gray
08/19/97	210 GAL	7.98	71.2 $\mu S/cm$	395 NTU	11.2°	Gray/Pumping Rate 2.1 GPM
08/19/97	225 GAL	7.84	71.1 $\mu S/cm$	189 NTU	11.7°	Gray
08/19/97	250 GAL	7.73	70.5 $\mu S/cm$	161 NTU	11.8	Clear
08/19/97	280 GAL	7.84	70.1 $\mu S/cm$	107 NTU	12.9	Clear
08/19/97	300 GAL	6.69	171.8 $\mu S/cm$	383 NTU	12.8	Gray/Pump shut down
08/19/97	340 GAL	6.52	171.2 $\mu S/cm$	84.1 NTU	12.7	Clear
08/19/97	350 GAL	6.55	167.2 $\mu S/cm$	74.3 NTU	12.7	Clear
08/19/97	365 GAL	6.19	167 $\mu S/cm$	107 NTU	12.7	Clear

WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: MMR DATE INSTALLED: 7-29-97 WELL NUMBER: MW-23D

PROJECT NUMBER: 31300 0103 DEVELOPER: W. Gallagher

REMARKS: _____

[illegible]

PROJECT NAME: MMR DATE INSTALLED: 10-16-97 WELL NUMBER: MW-2
 PROJECT NUMBER: 31300003 DEVELOPER: Sharon Chittam
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Watera Check Valve/
Grundfos

WELL VOLUME CALCULATIONS:

$$3.14 \cdot (d^2/4) \text{ FT} \cdot (b-h) \text{ FT} \cdot 7.48 = \text{GAL}$$

OR FOR 2" WELL:

For 2.5" Diameter: .25

$$(b-h) \text{ FT} \cdot .16 = \text{GAL}$$

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 16' (ft)

WATER LEVEL (h) 8.65' (ft)

WATER COLUMN (b-h) 7.35' (ft)

WELL VOLUME 1.84 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS:

DATE

CUMULATIVE
VOLUME (gal)

pH

CONDUCTIVITY

TURBIDITY
(NTU)

TEMP
(C)

COLOR

3:00

10-29-97

-

6.65

49.5

off scale

25

orange/brown
flow rate = 1/2 gal

3:26

10

6.66

41.6

410

25

3:40

20

6.66

40.7

175

25

cloudy

4:00

30

6.66

39.7

99

25

4:20

↓

40

6.67

39.6

46.6

25

3:40

10-30-97

45

6.69

73.4

23

12.6

Flow rate = 1/2 gal/h

3:50

50

6.69

56.8

3.72

12.5

clear

4:00

55

6.69

55.5

1.08

12.4

4:10

↓

60

6.69

55.3

.86

12.3

[illegible]

PROJECT NAME: MMR Impact Area DATE INSTALLED: _____ WELL NUMBER: 25

PROJECT NUMBER: 313000103 DEVELOPER: Tim Dwyer / B. Gallagher MW-255

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT (Arch Pump)

SUBMERSIBLE PUMP _____

OTHER _____

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 117.80 (ft)

WATER LEVEL (h) 109.57 (ft)

WATER COLUMN (b-h) 8.33 (ft)

WELL VOLUME 2.0 Gal (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/

COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
9/24/97	10 gal	7.17	55.6 $\mu S/cm$	Off Scale	12.3°	Arch Pump @ 0.5 GPM Dark brown
"	20 gal	6.44	48.3 $\mu S/cm$	148 NTU	10.7°	"
9/25/97	30 gal	6.05	61.6 $\mu S/cm$	37.1 NTU	11.3°	Grundfos Pump @ 1.25 GPM / clear
9/25/97	40 gal	5.92	46.3 $\mu S/cm$	21.2 NTU	11.3°	Clear
"	50 gal	5.90	44.7 $\mu S/cm$	11.9 NTU	11.4°	"
"	65 gal	5.95	44.8 $\mu S/cm$	3.69 NTU	11.4°	"

PROJECT NAME: M M R DATE INSTALLED: _____ WELL NUMBER: MW265

PROJECT NUMBER: 313000103 DEVELOPER: LB

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Arch pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 139 (ft)

WATER LEVEL (h) 132.29 (ft)

WATER COLUMN (b-h) 6.71 (ft)

WELL VOLUME ~1.68 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
23 Jan 98	2	7.91	131	89.2	8.9	cloudy
"	4	7.87	132	486	8.9	post-surge brown / cloudy
"	6	7.96	131	313	8.9	brown / cloudy
"	8	7.90	131	297	8.9	cloudy
"	10	7.82	131	263	8.9	"
"	12	7.98	131	212	8.9	"
"	14	7.94	131	450	8.9	"
"	16	7.92	131	363	8.9	cloudy / gray
"	18	7.91	131	212	8.9	cloudy
"	20	8.01	131	120	8.9	slightly cloudy



WELL DEVELOPMENT DATA

2 of 5

PROJECT NAME: MMR DATE INSTALLED: _____ WELL NUMBER: _____PROJECT NUMBER: 313000103 DEVELOPER: RL

MW265

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
23 Jan 98	22	7.96	131	98.3	8.9	fairly clear
"	24	7.89	131	76.2	8.9	"
"	26	7.92	131	58.1	8.9	"
26 Jan 98	27	8.05	132	453	8.9	post surge cloudy/brown
"	28	7.98	132	381	8.9	"
"	30	7.96	132	215	8.9	cloudy
"	32	7.99	132	126 105	8.9	fairly clear
"	33	8.02	132	755	8.9	post surge cloudy
"	34	7.88	132	845	8.9	brown/cloudy
"	35	7.72	131	160	8.9	slightly cloudy
"	36	7.74	131	43.9	8.9	"
"	37	7.69	131	841	8.9	post surge brown/cloudy
"	38	7.75	131	153	8.9	slightly cloudy
"	39	7.78	131	292	8.9	"
"	40	7.82	131	630.2	8.9	"



WELL DEVELOPMENT DATA

3 of 5

PROJECT NAME: MMJ DATE INSTALLED: _____ WELL NUMBER: _____PROJECT NUMBER 313000103 DEVELOPER: RF

MW265

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
26 Jun 98	42	7.91	131	54.1	8.9	Fairly clear
	44	7.96	131	32.1	8.9	"
	46	7.93	131	25.1	8.9	"
	48	7.90	131	280	8.9	cloudy
27 Jun 98	50	8.01	131	124	8.9	slightly cloudy
	51	7.87	131	173	8.9	cloudy
	52	7.93	131	282	8.9	"
	55	7.86	131	172	8.9	"
	57	7.93	131	240	8.9	"
	60	8.01	131	183	8.9	"
	62	7.96	131	202	8.9	"
	65	8.01	131	167	8.9	"
	67	7.84	131	186	8.9	"
	70	7.91	131	173	8.9	"
	75	8.03	131	210	8.9	"

PROJECT NAME: MMR DATE INSTALLED: _____ WELL NUMBER: 1

PROJECT NUMBER: 313000103 DEVELOPER: RG

MW265

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
7/20/98	80	7.91	131	314	8.9	cloudy
	85	7.94	131	323	8.9	cloudy fine gray silt
	90	7.96	131	53.2	8.9	clear. rec'd up rapidly
	92	7.84	131	209	8.9	clouded back up
	94	7.86	131	133	8.9	slightly cloudy
	96	7.92	131	68.9	8.9	fairly clear
	98	8.00	131	57.8	8.9	"
	100	8.02	131	52.3	8.9	"
	102	7.96	131	46.9	8.9	"
	104	7.92	131	40.4	8.9	"
	106	7.96	131	38.2	8.9	"
	108	7.98	131	58.4	8.9	"
	110	7.93	131	47.3	8.9	"
	115	7.86	131	47.8	8.9	"
	120	7.92	131	45.1	8.9	"

PROJECT NAME: MUNR DATE INSTALLED: 07-24-97 WELL NUMBER: MW2

PROJECT NUMBER: 313000103 DEVELOPER: RG

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Arch pump/Grundfos

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5 (in)

DEPTH OF WELL (b) 127 (ft)

WATER LEVEL (h) 116.41 (ft)

WATER COLUMN (b-h) 8.09 (ft)

WELL VOLUME 2 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
13 Nov 97	2	6.58	66	422	7.0	Brown slightly silty
	5	6.59	59	155	7.3	almost clear
	10	6.57	59	049	7.2	"
	12	6.58	59	411	7.2	Brown silty
	14	6.59	60	250	7.0	"
	16	6.56	61	296	10.7	"
	18	6.60	61	187	10.9	"
	20	6.54	59	344	10.9	"
	22	6.59	59	192	10.8	cloudy
	24	6.60	58	062	10.9	slightly cloudy



WELL DEVELOPMENT DATA

2 of 2

PROJECT NAME: mmr DATE INSTALLED: 07 Oct 97 WELL NUMBER: 14127PROJECT NUMBER: 313000103 DEVELOPER: RTG

REMARKS: _____

DEVELOPMENT LOG		WATER QUALITY				COMMENTS/ COLOR
DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
13 Nov 97	26	6.56	058	041	10.7	clear
"	28	6.58	059	032	10.9	"
	30	6.70	060	536	11.0	Brown silty
	35	6.57	062	492	11.1	"
	40	6.58	061	486	10.9	"
	42	6.70	061	037	11.0	clear
	44	6.71	062	007	11.2	"
	46	6.67	061	003	10.9	"
	48	6.68	061	002	11.0	"
	50	6.63	063	002	11.2	"
	52	6.65	062	002	11.1	"
↓	54	6.64	063	002	11.2	"

PROJECT NAME: MMR DATE INSTALLED: 7-30-97 WELL NUMBER: MW-28
 PROJECT NUMBER: 313000103 DEVELOPER: W. Gallogher mw285
 REMARKS: _____

METHOD:

OVERPUMPAGE _____
 BAILER _____
 SURGE BLOCK _____
 AIR LIFT _____
 SUBMERSIBLE PUMP ☒
 OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL
 OR FOR 2" WELL:
 $(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

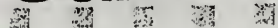
WELL DIAMETER (d) 2.5' (in)
 DEPTH OF WELL (b) 108.8 (ft)
 WATER LEVEL (h) 96.68 (ft)
 WATER COLUMN (b-h) 12.12 (ft)
 WELL VOLUME 2.4 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
8-21-97	3 Gal	5.04	60.2 $\mu S/cm$	887 NTU	13.4°	Brown/Pumping Rate @ 1.5 GPM
"	6 Gal	4.92	55.6 $\mu S/cm$	893 NTU	12.6°	Brown/Pumping Rate @ 1.5 GPM
"	9 Gal	4.87	56.4 $\mu S/cm$	938 NTU	12.3°	Brown
"	12 Gal	5.15	54.9 $\mu S/cm$	626 NTU	11.3°	lt Brown
"	15 Gal	5.13	56.1 $\mu S/cm$	312 NTU	12.1°	"
"	18 Gal	5.22	58.9 $\mu S/cm$	232 NTU	12.8°	"
"	21 Gal	5.03	56.0 $\mu S/cm$	175 NTU	12.3°	"
"	25 Gal	5.17	77.0 $\mu S/cm$	80.4 NTU	12.9°	Substituted to maintain Pumping Rate @ 1.5 GPM
"	35 Gal	5.22	57.1 $\mu S/cm$	6.45 NTU	12.3°	Clear
"	45 Gal	5.11	56.8 $\mu S/cm$	5.99 NTU	12.2°	"



2 of 2

REMARKS: _____

[illegible]

PROJECT NAME: MMR DATE INSTALLED: 8/1/97 WELL NUMBER: MW295-1
 PROJECT NUMBER: 313000103 DEVELOPER: W. Gallagher
 REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP ☒

OTHER Inertial Pump

WELL VOLUME CALCULATIONS:

$3.14 * (d^2/4) FT * (b-h) FT * 7.48 =$ _____ GAL

OR FOR 2" WELL-

$(b-h) FT * .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 110 (ft)

WATER LEVEL (h) 101.2 (ft)

WATER COLUMN (b-h) 8.8 (ft)

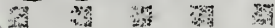
WELL VOLUME 1.76 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	COMMENTS/ COLOR
8-21-97	3 Gal	6.05	63.6 $\mu S/cm$	776 NTU	13.3°	Pumping Rate 0.1 GPM 0.1 GPM / Brown
8-21-97	12 Gal	6.18	64.8 $\mu S/cm$	815 NTU	12.7°	"
"	15 Gal	6.04	65.8 $\mu S/cm$	786 NTU	12.6°	Pumping Rate Drops to 0.5 GPM
"	19 Gal	6.19	65.9 $\mu S/cm$	366 NTU	12.9°	Brown
"	22 Gal	5.97	65.8 $\mu S/cm$	277 NTU	12.6°	"
"	24 Gal	6.14	65.5 $\mu S/cm$	165 NTU	12.7°	"
"	26 Gal	5.93	67.3 $\mu S/cm$	91 NTU	12.9°	clear
"	28 Gal	5.97	66.8 $\mu S/cm$	83 NTU	12.9°	clear
"	30 Gal	6.02	67.4 $\mu S/cm$	83 NTU	12.9°	clear
"	35 Gal	6.40	72.6 $\mu S/cm$	8.11 NTU	13.1°	"



2 of 2

REMARKS: _____

[illegible]

PROJECT NAME: mmR DATE INSTALLED: 10/28/97 WELL NUMBER: nw3

PROJECT NUMBER: 313000103 DEVELOPER: Sharon Chittam

REMARKS: _____

METHOD:

OVERPUMPAGE _____

BAILER _____

SURGE BLOCK _____

AIR LIFT _____

SUBMERSIBLE PUMP _____

OTHER Arch Pump/Grundfos

WELL VOLUME CALCULATIONS:

$3.14 \cdot (d/4)^2 \cdot (b-h) \cdot 7.48 =$ _____ GAL
OR FOR 2" WELL- For 2.5" well = $2.5 \cdot (b-h)$
(b-h) FT $\cdot .16 =$ _____ GAL

WELL PARAMETERS:

WELL DIAMETER (d) 2.5" (in)

DEPTH OF WELL (b) 35.7 (ft)

WATER LEVEL (h) 27.8 (ft)

WATER COLUMN (b-h) 7.9 (ft)

WELL VOLUME 1.975 (gal)

DEVELOPMENT LOG:

WATER QUALITY:

COMMENTS/ COLOR

	DATE	CUMULATIVE VOLUME (gal)	pH	CONDUCTIVITY	TURBIDITY (NTU)	TEMP (C)	
8:40	10/31/97	5	6.69	70.3	390	11.1	Pump Rate = ~ 1/2 gal/min
8:50	10/31/97	10	6.69	64.5	767	11.7	Surged well 1 minute
9:00	10/31/97	10	6.69	62.3	126	10.9	switched to grundfos pump Flow rate = 3 gal/min
9:10	10/31/97	40	6.69	60.3	13.1	11.0	Clear
9:20	10/31/97	70	6.70	59.8	4.51	11.1	Clear
9:30	10/31/97	100	6.70	58.5	76.6	11.1	well is surged cloudy
9:40	10/31/97	130	6.70	58.2	3.05	11.2	clear
9:50	10/31/97	160	6.71	57.9	2.02	11.1	clear
1000	10/31/97	190	6.70	57.5	1.25	11.2	clear
1010	10/31/97	220	6.70	57.5	1.05	11.2	clear

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 9/30/97

WELL NO. MW15 CLIMATIC CONDITIONS: cloudy, windy, 65°F TIME: 1240

REMARKS: splitting sample with TRC SAMPLER: JH/CH

WELL PURGING:

STATIC WATER LEVEL: 115.35 ft. WELL DEPTH: 124.32 ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE <u>9/30</u>	TEMP (C)	PH	TURB. (NTU)	COND. (us/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
<u>1105</u>	<u>11.42</u>	<u>6.06</u>	<u>141.3</u>	<u>40</u>	<u>379.1</u>	<u>4.15</u>	<u>650</u>	<u>0</u>	<u>~0.5 gal. purged</u>
<u>1110</u>	<u>11.19</u>	<u>6.17</u>	<u>161.9</u>	<u>42</u>	<u>400.8</u>	<u>3.42</u>	<u>600</u>	<u>0</u>	<u>~0.75 gal. purged</u>
<u>1115</u>	<u>11.15</u>	<u>6.21</u>	<u>134</u>	<u>42</u>	<u>462.8</u>	<u>3.15</u>	<u>600</u>	<u>0</u>	<u>~1.25 "</u>
<u>1120</u>	<u>11.17</u>	<u>6.27</u>	<u>93.5</u>	<u>43</u>	<u>463.1</u>	<u>2.89</u>	<u>600</u>	<u>0</u>	<u>~2 "</u>
<u>1125</u>	<u>11.09</u>	<u>6.34</u>	<u>73</u>	<u>43</u>	<u>405.3</u>	<u>2.83</u>	<u>1000</u>	<u>0</u>	<u>~3 "</u>
<u>1130</u>	<u>11.09</u>	<u>6.38</u>	<u>56.1</u>	<u>43</u>	<u>368.0</u>	<u>2.82</u>	<u>600</u>	<u>0</u>	
<u>1135</u>	<u>11.06</u>	<u>6.41</u>	<u>45.8</u>	<u>43</u>	<u>343.1</u>	<u>2.83</u>	<u>600</u>	<u>0</u>	
<u>1140</u>	<u>11.04</u>	<u>6.44</u>	<u>34.0</u>	<u>43</u>	<u>371.7</u>	<u>2.85</u>	<u>600</u>	<u>0</u>	<u>~7 "</u>
<u>1145</u>	<u>11.10</u>	<u>6.46</u>	<u>27.2</u>	<u>43</u>	<u>342.2</u>	<u>2.81</u>	<u>600</u>	<u>0</u>	

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 1L amber; 1L poly

SAMPLE ID NUMBER(S): W015SD, W015SE, W015SA
W015LD, W015LE, W015SL

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER: _____

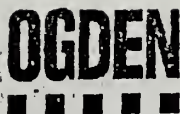
DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

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[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

Page 1 of 2

PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 19 JAN 98				
WELL No.: MW-1M1		CLIMATIC CONDITIONS: Overcast, 1st breezy, 35°F		TIME:				
REMARKS:		SAMPLER: OH/JD						
WELL PURGING:		STATIC WATER LEVEL: 116.45 ft		WELL DEPTH: ft				
LENGTH OF SATURATED ZONE:								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = gals.								
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 120 ml/min.						
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1000	0	7.88	5.13	1.10	17	196	3.81	100 ml/min - DTW 116.45
1010	1.0	7.56	5.05	1.62	17	327	2.94	
1020	2.0	7.78	5.71	1.67	74	321	3.52	
1030	3.0	8.33	6.64	21000	140	232	2.30	4250 ml/min
1040	5.5	9.66	6.85	332	129	263	2.33	
1050	8.0	9.50	6.84	606	132	268	2.39	
1100	10.5	9.62	6.84	303	130	239	2.58	
1110	13.0	9.47	6.82	231	125	209	2.63	350 ml/min / 116.45
1120	16.5	9.05	6.81	214	117	100	3.64	
1130	20.0	9.53	6.78	743	114	43	4.11	
1140	23.5	9.52	6.78	571	111	40.6	4.12	
1150	27.0	9.33	6.77	397	110	41.8	3.14	
1200	31.5	9.70	6.75	118	104	9.8	3.03	4200 ml/min / 116.45
SAMPLE WITHDRAWAL METHOD: Bladder Slow Flow								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:						VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl);		
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED:						11 40 ml; 9 1 L Amber; 4 1 L Poly		
SAMPLE ID NUMBER(s):						ER = WOIMIE; SAMPLE = WOIMIA/WOIMIL		
DECON METHOD:						Liquidnox wash; DI rinse; Methonal Rinse; DI rinse		
PURGE WATER DISPOSED OF IN DRUM NUMBER:						DECON GAL SYSTEM		
SAMPLES DELIVERED TO: ITS						TRANSPORTER:		
DATE:						TIME:		
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.85, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								

MW-1M1
19 JAN 98

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1210	33.5	9.69	6.73	79.5	100	-2.0	2.92	↓ 200 ml/min
1220	35.5	9.47	6.73	80.6	104	-8.0	2.79	
1230	37.5	9.35	6.72	83.1	101	-1.1	2.82	↑ 350 ml/min
1240	41.0	9.58	6.73	87.3	102	-10.5	2.77	
1250	44.5	10.01	6.74	89.3	100	-6.3	2.61	
1300	48.0	9.84	6.71	84.5	104	-37.6	2.66	
1310	51.5	9.69	6.72	86.5	102	-28.8	2.10	
1320	55.0	9.82	6.72	79.3	102	-34.7	1.92	
1330	58.5	9.50	6.68	69.6	101	-37.3	1.97	
1350	58	9.64	6.67	100.7	101	-34	1.72	
1400	61	9.75	6.71	94.5	101	-44	1.69	~ 200 ml/min
1410	62	9.67	6.74	83.8	98	-40	1.54	
1420	65	9.32	6.73	74.8	104	-70	1.35	
1430	68	9.32	6.72	201	99	-45	1.36	~ 300 ml/min
1440	70	9.37	6.72		94	-73	1.40	~ 200 ml/min

Sample @ 1445

DO (Colorimetric) = 10 mg/L

Turb prior to metal collection = 86.0



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

Page 1 of 2

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 9-29-97
WELL No.: MW-1M2 CLIMATIC CONDITIONS: Cloudy/Windy TIME: 1540
REMARKS: Temp ~ 65°F SAMPLER: BG/JH

WELL PURGING: STATIC WATER LEVEL: 115.59 ft. WELL DEPTH: 165.21 ft.

LENGTH OF SATURATED ZONE: 49.62'

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 370 @ Sample Collect ml/min.

WELL PURGE DATA:

TIME	Gallons LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO%	W.L.	COMMENTS	Pumping Rate
15:42	0.75	11.9	5.79	125	33	364	16.9	115.59'		600
1547	1.50	11.5	6.15	99.1	40	356.5	18.50	115.60		600
1552	2.0	11.45	6.19	85.3	39	336.0	18.9	115.60		600
1557	2.5	11.32	6.20	73.0	38	304.0	18.91	115.60		600
1602	3	11.30	6.21	56.6	37	253.0	18.31	115.61		600
1607	3.5	11.31	6.22	45.6	36.0	227.9	17.79	115.61		600
1612	4.0	11.22	6.22	38.0	36.0	216.0	17.85	115.61		600
1617	4.5	11.16	6.23	32.8	35.0	214.6	17.35	115.61		500
1622	5	11.10	6.24	28.2	35.0	213.9	16.70	115.61		500
1627	5.5	11.11	6.24	25.2	35.0	206.9	16.13	115.61		500
1632	6.0	11.09	6.25	22.1	35.0	198.3	15.76	115.61		550
1639	6.5	10.99	6.29	20.9	35.0	187.1	16.77	115.61		550

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 1 L Amber; 1 L Poly

SAMPLE ID NUMBER(S): WO1MMA (Sample), WO1MLA (Filtered Sample)
WO1MME (Equip. blank @ 14:00)

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: In roll-off box

SAMPLES DELIVERED TO: ITS

TRANSPORTER:

DATE:

TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

[illegible]

PROJECT NUMBER: 33000103 LOCATION: MMC DATE: 10/1/97
 WELL NO. MW1D CLIMATIC CONDITIONS: windy, ~60°F TIME: 0815
 REMARKS: _____ SAMPLER: JH/CH

WELL PURGING:

STATIC WATER LEVEL: 115.52 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: low flow bladder pump PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE TIME	GALLONS REMOVED PH	TEMP	DO PH	COND.	TURBIDITY	COLOR	ORP	drawdown COMMENTS	rate	vol. removed
815	6.07	11.24	5.14	66	100.5	very ht.	425.7	Ø	0.25	
820	6.21	11.25	3.80	62	92.7	Silty br.	404.7	Ø	0.25	~2 gallons
825	6.27	11.26	3.55	63	85.5		392.8	Ø	0.25	
830	6.30	11.22	3.42	63	84.3		388.8	Ø	0.25	
835	6.33	11.24	3.35	63	83.1		379.3	Ø	0.25	
840	6.37	11.25	3.30	64	81.0		373.4	Ø	0.25	
845	6.38	11.27	3.26	64	82.3		362.8	Ø	0.28	
850	6.41	11.24	3.21	65	84.4		351.6	Ø	0.3	
855	6.43	11.28	3.15	65	81.1		341.0	Ø	0.3	
JH 8900	6.45	11.28	3.10	65	82.1		330.0	Ø	0.3	
905	6.47	11.21	3.04	66	82.4		307.9	Ø	0.3	
910	6.47	11.26	3.02	66	83.4		288.7	Ø	0.3	5 gallons

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCL), EDB (Na₂S₂O₃), MTBE (HCL), TOC (H₂SO₄); SVOC (None), EXP (None), PCB/pest (None), CN (NaOH), NO₂/NO₃ (H₂SO₄), Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 (40 mL), 9 (1L Amber), 4 (1L Poly)

SAMPLE ID NUMBER(s): WO1DDA, WO1DDL

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: Roll-off box

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

OGDEN**GROUND-WATER SAMPLING LOG**PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10/1/97WELL NO. MW1D CLIMATIC CONDITIONS: _____ TIME: _____REMARKS: See page 1 SAMPLER: _____**WELL PURGING:**

STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE TIME	GALLONS REMOVED PH	TEMP	DO PH	COND.	TURBIDITY	COLOR	G/P	drawdown COMMENTS	4/min. RATE	Volume removed
10/1/97 915	6.49	11.22	2.96	66	82.4	lt br-cl.	263.1	Ø	0.3	
920	6.50	11.26	2.90	66	80.3		245.4	Ø	0.3	
925	6.51	11.33	2.80	67	78.5		236.1	Ø	0.3	
930	6.52	11.32	2.75	67	84.5		206.3	Ø	0.3	
935	6.53	11.34	2.72	67	90.6		194.9	Ø	0.3	
940	6.55	11.43	2.65	68	88		191.9	Ø	0.3	
945	6.56	11.44	2.65	68	87.6		157	Ø	0.3	
950	6.56	11.37	2.56	68	83.5		145.3	Ø	0.3	
955	6.56	11.23	2.55	67	82		102.2	Ø	0.3	
1000	6.56	11.27	2.51	67	78.6		87.7	Ø	0.3	
1005	6.56	11.45	2.50	68	80.1		93.8	Ø	0.3	
1010	6.56	11.70	2.50	68	84.3	↓	116.4	Ø	0.3	10 gallon

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MNR DATE: 10/1/97

WELL NO. MW115 CLIMATIC CONDITIONS: windy ~60°F TIME: _____

REMARKS: See page 1 SAMPLER: _____

WELL PURGING:

STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE	GALLONS REMOVED	TEMP	DO PH	COND.	TURBIDITY	GRP COLOR	d. down	color COMMENTS	Volume
1015	6.58	11.43	2.51	69	81.5	83.6	Ø	clear	
1020	6.58	11.42	2.52	69	82.4	72.4	Ø		
1025	6.59	11.42	2.54	69	86	69.2	Ø		
1030	6.59	11.42	2.53	69	84.5	63.9	Ø		
1035	6.59	11.43	2.56	69	83.7	63.5	Ø		
1040	6.59	11.47	2.55	69	81.6	45.7	Ø		
1045	6.59	11.50	2.54	69	81.4	48.7	Ø		
1050	6.60	11.50	2.52	69	86.3	49.3	Ø		
1055	6.60	11.50	2.50	69	81.2	50.3	Ø		~13 gallons
1100	6.60	11.57	2.53	69	85.1	19.1	Ø		
1105	6.60	11.57	2.53	69	83.5	20.8	Ø		
1110	6.60	11.58	2.53	69	87.2	28.2	Ø	✓	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

OGDEN

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10/1/97
 WELL NO. MWID CLIMATIC CONDITIONS: Windy, 260°F TIME: _____
 REMARKS: See page 1 SAMPLER: _____

WELL PURGING:

STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE	GALLONS REMOVED	TEMP	DO pH	COND.	TURBIDITY	GRP COLOR	color	drawdown COMMENTS	volume
1115	6.61	11.63	2.49	69	84.4	15.1	clear	Ø	
1120	6.61	11.75	2.45	69	84.3	9.5		Ø	
1125	6.61	11.75	2.44	69	89.6	10.5		Ø	
1130	6.61	11.76	2.43	69	82.6	10.7		Ø	
1135	6.61	11.74	2.42	69	81.2	10.8		Ø	
1140	6.61	11.75	2.44	69	80.5	11.8		Ø	
1145	6.61	11.77	2.46	70	82.4	9.1		Ø	
1150	6.62	11.79	2.46	70	82.1	23.1		Ø	
1155	6.62	11.80	2.49	70	85.5	22.6		Ø	
1200	6.62	11.85	2.51	70	85.3	24.5		Ø	
1205	6.62	11.87	2.53	71	89.2	8.3		Ø	
1210	6.62	11.85	2.53	71	81.4	10.7		Ø	18 gallons

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10/1/97
 WELL NO. MW1D CLIMATIC CONDITIONS: Windy, ~60°F TIME: _____
 REMARKS: See page 1 SAMPLER: _____

WELL PURGING:

STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE	GALLONS REMOVED	TEMP	DO -pH	TURB. -COND.	COND. TURBIDITY	ORP COLOR	drawdown color COMMENTS	Volume
1215	6.63	11.54	2.5	84.2	70	-20.7	clear ϕ	
1220	6.62	11.54	2.5	87.7	70	-17.3	ϕ	
1225	6.63	11.50	2.53	85.3	70	-6.3	ϕ	
1230	6.63	11.51	2.53	83.5	71	-13	ϕ	
1235	6.64	11.51	2.51	73.3	71	-4.8	ϕ	
1240	6.64	11.79	2.50	89	71	-34.2	ϕ	
1245	6.64	11.75	2.50	84.6	71	-40.9	ϕ	
1300	6.64	11.78	2.48	87.9	71	-41.2	ϕ	
1315	6.64	11.80	2.48	89.1	72	-53.4	ϕ	20
1330	6.64	11.81	2.46	86.4	72	-58.3	ϕ	
1345	6.64	11.99	2.40	83.8	72	-69.7	ϕ	
1400	6.64	11.77	2.48	88.2	71	-51.6	ϕ	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

OGDEN**GROUND-WATER SAMPLING LOG**

⑥

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10/1/97
 WELL NO. MWD CLIMATIC CONDITIONS: Windy, ~60°F TIME: _____
 REMARKS: Collected Sample at 16:00 SAMPLER: _____

WELL PURGING: STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.
 REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE TIME	GALLONS REMOVED	TEMP	DO PH	COND.	TURBIDITY	GRP COLOR	color	arquian COMMENTS	Volume
10/1/97									
14:15	6.64	11.92	2.49	72	89.2	-73.1	clear	Ø	
14:30	6.65	11.67	2.46	72		-76.1	"	"	
14:45	6.64	11.38	2.53	71		-45.6	"	"	
15:00	6.65	11.33	2.50	71		-67.8	"	"	
15:15	6.65	11.34	2.46	71		-93.1	"	"	
15:30	6.65	11.36	2.39	72	37.2	-81.1	"	"	
15:45	6.66	11.32	2.37	72	47.7	-87.4	"	"	
16:00	6.66	11.24	2.34	72	86.6	-97.2	"	"	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(s): _____

DECON METHOD: _____

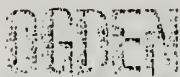
PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 23 FEB 98
WELL No.: MW-25 CLIMATIC CONDITIONS: overcast, 35°F TIME: 0725
REMARKS: to collect split sample 14 bags SAMPLER: CH/JO

WELL PURGING: STATIC WATER LEVEL: 139.25 ft. WELL DEPTH: ft.

LENGTH OF SATURATED ZONE: VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0745	0	8.33	6.66	22.8	21	132	12.64	139.25 - 100 ml/min
0755	1.0	8.44	7.24	524	208	45.2	4.88	
0805	2.0	8.53	7.66	562	225	-16.9	1.25	
0815	3.0	8.56	7.80	580	231	-43.6	1.12	
0825	4.0	8.61	8.00	571	242	-57.7	1.05	139.64 100 ml/min
0835	5.0	8.63	8.12	578	250	-61.7	0.98	
0845	6.0	7.83	8.13	590	253	-57.7	0.91	
0855	7.0	7.80	8.15	610	254	-57.1	0.88	
0905	8.0	7.84	8.21	621	263	-64	0.76	4200 ml/min 139.55
0915	10	8.74	8.26	634	262	-78.8	0.55	
0925	12	8.82	8.18	594	246	-74.6	0.83	
0945	16	8.87	8.21	604	252	-84.6	0.81	
1005	20	9.12	8.21	599	238	-87.4	0.94	

SAMPLE WITHDRAWAL METHOD: BLADDER PUMPLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (Na₂S₂O₃), MTBE (HCl),TOC (H₂SO₄), SVOC (None), EXP (None), Herb (None), PCB/Pest (None), Alk (None), CN (NaOH), NO₂/NO₃ (H₂SO₄), Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(S): ER collected 20 FEB = WOZSSSE; WOZSSA/WOZSSLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAC SYSTEMSAMPLES DELIVERED TO: ITS TRANSPORTER: DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

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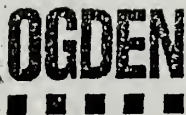
MW25

23 FEB 98

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1025	24	9.08	8.27	607	231	-95.0	0.84	100 ml/min 139.90 T _{ox}
1045	26	8.33	8.33	601	223	-92.7	0.79	
1105	28	8.52	8.48	670	216	-104.1	0.55	
1125	30	8.57	8.51	681	209	-111	0.42	100 ml/min 139.50 T _{ox}
1145	32	8.78	8.51	680	201	-114	0.37	
1205	34	8.74	8.51	666	193	-109	0.43	
1225	36	8.69	8.45	613	185	-96	0.64	100 ml/min 139.53 T _{ox}
1245	38	8.87	8.44	587	180	-87.3	0.83	
1305	40	8.96	8.43	576	175	-79.6	0.98	
1325	42	9.02	8.40	523	171	-69.9	1.34	
1335	43	8.98	8.39	503	169	-65.8	1.33	100 ml/min
1345	44	8.92	8.39	487	167	-61.7	1.43	
1355	45	8.94	8.38	480	164	-58.4	1.54	

Celometh DO = 5 mg/L @ 1335

FINAL TURB PRIOR TO METALS = 453 NTU @ 1625



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 20 JAN 98				
WELL No.: MW2 M1		CLIMATIC CONDITIONS: Overcast, windy		TIME: 1530				
REMARKS:				SAMPLER: CH/SD				
WELL PURGING:		STATIC WATER LEVEL: 138.68 ft		WELL DEPTH: ft				
LENGTH OF SATURATED ZONE:								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = gals.								
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100 ml/min ml/min.						
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1535	1.0	7.87	6.93	21.6	121	91.7	17.32	100 ml/min / 138.75' TOC
1545	2.0	7.82	6.92	21.9	114	140	15.13	
1555	3.0	7.84	6.91	20.1	112	170	14.63	
1605	4.0	7.98	6.91	18.5	113	180	13.93	
1615	5.0	6.98	6.91	17.9	114	195	13.11	END of 20 JAN
0745	5.5	7.64	6.97	13.9	160	162	19.19	DTW 138.77 21 JAN 98
0755	6.5	6.33	6.94	11.7	132	177	18.80	
0805	7.5	6.81	6.90	11.4	129	170.7	18.32	DTW 138.78 / 100 ml/min
0815	8.5	7.76	6.90	13.3	121	185	17.14	
0825	9.5	8.06	6.87	12.4	116	198	16.78	
0835	10.5	8.24	6.85	10.5	115	206	16.05	
0845	11.5	8.24	6.84	8.60	113	208	15.71	
0855	12.5	8.05	6.83	8.38	111	209	15.32	DTW 138.78 / 100 ml/min
SAMPLE WITHDRAWAL METHOD: Bladder pump								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl); TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 1 40 ml; 9 1 L Amber; 4 1 L Poly								
SAMPLE ID NUMBER(s): W02M1A; W02M1C								
DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse								
PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon HAC SYSTEM								
SAMPLES DELIVERED TO: ITS TRANSPORTER:								
DATE: TIME:								
CASING CAPACITY (gallons/linear foot) 2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87 Well Screen Volume = 0.041(d) ² h Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								

[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>20 JAN 98</u>				
WELL No.: <u>MW-2M2</u>		CLIMATIC CONDITIONS: <u>overcast, N breeze</u>		TIME: <u>1000</u>				
REMARKS: <u>Split w/ TRC</u>		SAMPLER: <u>CH/JD</u>						
WELL PURGING:		STATIC WATER LEVEL: <u>138.65</u> ft		WELL DEPTH: _____ ft				
LENGTH OF SATURATED ZONE: _____								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.								
REMOVAL METHOD: <u>Bladder slow flow</u>		PUMPING RATE: <u>100</u> ml/min.						
WELL PURGE DATA:								
TIME	LITERS REMOVED	3% TEMP	±0.1 pH	10% TURBIDITY	3% COND.	±10 ORP	10% DO	COMMENTS
1000	0	8.06	7.06	1.32	30	180	16.52	100ml/min / 138.66
1010	1.0	8.16	6.22	21.7	77	-74.7	23.60	100ml/min / 138.65
1020	2.0	8.30	6.47	19.1	86	-105	22.43	
1030	3.0	8.40	6.53	14.6	84	-107	21.53	
1040	4.0	8.44	6.55	10.8	81	-105	21.02	
1050	5.0	8.45	6.51	9.83	79	-97.4	20.15	
1100	6.0	8.40	6.56	6.35	77	-90.6	20.04	
1110	7.0	8.21	6.55	6.01	75	-78.9	19.16	
1120	8.0	8.14	6.55	5.08	73	-71.6	19.82	
1125	8.5	8.17	6.54	4.54	73	-69.2	18.93	
1130	9.0	8.28	6.53	4.28	73	-65	18.51	
COLORIMETRIC DO = 12 mg/L								
SAMPLE # 1145						TURBIDITY TOTALS = 282		
SAMPLE WITHDRAWAL METHOD: <u>BLADDER SLOW FLOW</u>								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>								
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Post (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>								
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>11 40 ml; 9 1 L Amber; 4 1 L Poly</u>								
SAMPLE ID NUMBER(S): <u>ER = WJ02M2E; SAMPLE = WJ02M2A / WJ02M2L</u>								
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>								
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>DECON GAC SYSTEM</u>								
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____								
DATE: _____ TIME: _____								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/18/97
WELL No.: MV-2D CLIMATIC CONDITIONS: Sunny, 35° TIME: _____
REMARKS: _____ SAMPLER: TD, KD

WELL PURGING: _____ STATIC WATER LEVEL: 138.66 ft WELL DEPTH: 360' ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 300 ml/min. ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	GRP	DO	COMMENTS
<u>0750</u>	<u>0</u>	<u>8.22</u>	<u>8.66</u>	<u>475</u>	<u>215</u>	<u>-261.5</u>	<u>1.59</u>	<u>DTW 138.64'</u>
<u>0805</u>	<u>4.5</u>	<u>8.32</u>	<u>8.73</u>	<u>444</u>	<u>213</u>	<u>-276.3</u>	<u>1.44</u>	<u>Flow rate 300 ml/min</u>
<u>0825</u>	<u>10.5</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>Control Box is</u>
								<u>FROZEN</u>
<u>0750</u>	<u>14.0</u>	<u>8.83</u>	<u>8.00</u>	<u>555</u>	<u>228</u>	<u>-298.7</u>	<u>1.05</u>	<u>Flow rate: 300 ml/min</u>
<u>0800</u>	<u>17.0</u>	<u>9.12</u>	<u>8.27</u>	<u>495</u>	<u>233</u>	<u>-329.6</u>	<u>0.78</u>	<u>DTW 138.66</u>
<u>0810</u>	<u>20.0</u>	<u>9.27</u>	<u>8.79</u>	<u>652</u>	<u>240</u>	<u>-369.0</u>	<u>0.52</u>	<u>DTW 138.69</u>
<u>0820</u>	<u>23.0</u>	<u>9.37</u>	<u>9.28</u>	<u>524</u>	<u>222</u>	<u>-360.2</u>	<u>0.40</u>	
<u>0830</u>	<u>26.0</u>	<u>9.43</u>	<u>9.38</u>	<u>477</u>	<u>211</u>	<u>-382.2</u>	<u>0.38</u>	<u>DTW 138.73</u>
<u>0845</u>	<u>30.5</u>	<u>9.45</u>	<u>9.39</u>	<u>468</u>	<u>202</u>	<u>-401.5</u>	<u>0.36</u>	<u>Flow rate 300 ml/min</u>
<u>0900</u>	<u>35.0</u>	<u>9.33</u>	<u>9.34</u>	<u>470</u>	<u>196</u>	<u>-404.7</u>	<u>0.37</u>	
<u>0920</u>	<u>41.0</u>	<u>9.35</u>	<u>9.27</u>	<u>434</u>	<u>187</u>	<u>-417.2</u>	<u>0.37</u>	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (Na₂S₂O₃), MTBE (HCl);TOC (H₂SO₄), SVOC (None), EXP (None), Herb (None), PCB/Pest (None), Alk (None), CN (NaOH), NO₂/NO₃ (H₂SO₄), Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): W02DDA + W02DDLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

MW-2D, 11/19/97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0940	47	9.51	9.24	231	182	-386.3	0.34	
1000	50 54 63	9.37	9.23	220	102	-452.3	0.36	Pump stops for refueling
1020	56	8.02	9.26	277	177	-470.7	0.32	@ 1005
1040	62	9.49	9.21	246	182	-384.4	0.75	
1100	68	9.51	9.33	227	189	-49.2	0.38	
1120	71	9.46	9.29	168	182	-445.4	0.36	Flow Rate 200 ml/min
1130	73	9.49	9.22	144	182	-434.1	0.36	DTW 138.74'
1140	75	9.51	9.19	141	179	-409.2	0.37	
1150	77	9.58	9.20	136	179	-412.4	0.36	
1200	79	9.61	9.19	129	179	-424.3	0.37	
1210	81	9.65	9.19	121	178	-424.1	0.36	
1220	84	9.66	9.18	122	178	-422.5	0.38	
1230	87	9.77	9.18	119	178	-426.6	0.38	DTW 138.57'
1240	90	9.75	9.20	112	179	-416.3	0.37	
1300	93	9.77	9.18	115	177	-407.3	0.34	
1310	96	9.77	9.17	172	177	-400.7	0.37	Flow rate lowered to
1320	99	10.05	9.18	258	178	-399.9	0.37	150 ml/min
1330	102	9.96	9.19	237	177	-426.1	0.37	
1350	104 114	9.99	9.17	245	177	-427.1	0.38	DTW 138.64'
1410	126	9.90	9.15	233	173	-419.0	0.41	Flow Rate: 150 ml/min

Colorimetric pH readings:

VOCs/MTBE(HCl): 2

EDB/(Na₂SO₄)₂

TOC(H₂SO₄): 2

Metals(HNO₃): 2

Cyanide(NAOH): 11

Phosphorus(H₂SO₄): 2

Unpreserved: 7

Colorimetric DO reading: 1 ppm

Turbidity before Metals sample: 202 NTU



GROUND-WATER SAMPLING LOG

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Mw35

ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 3-9-98
WELL No.: Mw35 CLIMATIC CONDITIONS: Cloudy, 40°F TIME: 0850
REMARKS: SPLIT WITH TRC SAMPLER: K0+JD

WELL PURGING: STATIC WATER LEVEL: 46.55 ft. WELL DEPTH: 54.0 ft.

LENGTH OF SATURATED ZONE: 7.45'

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = 5.6 gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0930	0	9.13	5.97	7.45	58	204.2	21.24	DTW=46.54'
0940	1	9.26	6.14	35.6	70	182.1	15.79	100 ml/min
0950	2	9.25	6.25	31.4	71	168.1	15.51	
1000	3	9.15	6.32	18.8	71	160.1	15.49	
1010	4	9.16	6.38	10.2	72	153.1	15.49	
1020	5	9.23	6.43	6.45	73	147.3	15.50	
1030	6	9.28	6.48	4.82	74	141.9	15.42	
1035	6.5	9.35	6.49	3.80	74	139.8	15.37	Flow Rate =
1040	7.0	9.37	6.50	3.41	74	137.4	15.32	100 ml/min
1045	7.5	9.36	6.51	3.04	74	135.2	15.25	DTW=46.54'

1050 - Collecting Sample & Final Turbidity = 2.95 < 10 ml/min DO = 8 mg/L

SAMPLE WITHDRAWAL METHOD: Slow Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): W035SE, W035SA, & W035SL

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER:

PolytANK ON MATEL TRUCK

SAMPLES DELIVERED TO: TRANSPORTER:

DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>3/12/98</u>				
WELL No.: <u>MW-3M1</u>		CLIMATIC CONDITIONS: _____		TIME: <u>0930</u>				
REMARKS: _____		SAMPLER: <u>RP JD</u>						
WELL PURGING: _____		STATIC WATER LEVEL: <u>47.02</u> ft.		WELL DEPTH: <u>245</u> ft.				
LENGTH OF SATURATED ZONE: _____								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.								
REMOVAL METHOD: <u>Bladder slow flow</u>		PUMPING RATE: <u>100</u>		ml/min.				
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1000	0	5.82	5.83	27	50	200.3	1.83	100 ml/min DTW 47.02
1010	1	5.86	6.32	41.3	78	133	0.84	
1020	2	5.75	6.56	41.4	86	98	0.68	100 ml/min DTW 47.02
1030	3	5.47	6.70	40.2	91	78.7	0.74	
1040	4	5.09	6.78	38.7	93	74.3	0.70	
1050	5	5.33	6.85	36.4	92	67.2	0.60	100 ml/min DTW 47.02
1100	6	5.49	6.90	36.5	93	66.3	0.60	
1110	7	6.35	6.91	36.1	92	62.9	0.63	200 ml/min DTW = 47.02
1120	9	7.50	6.95	36.9	90	61.1	0.58	
1130	11	7.55	6.95	35.3	88	65.2	0.83	
1140	13	7.61	6.94	27.4	84	68.9	0.94	
1150	15	7.63	6.93	24.9	83	72.2	1.07	
SAMPLE WITHDRAWAL METHOD: <u>Low flow bladder pump</u>								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>								
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>								
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>11 40 ml; 9 1 L Amber; 4 1 L Poly</u>								
SAMPLE ID NUMBER(s): <u>W03MSA</u>								
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>								
PURGE WATER DISPOSED OF IN DRUM NUMBER: _____								
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____								
DATE: _____ TIME: _____								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d1) ² - (d2) ²]h(0.3)								

3/12/58

D.O. 7mg/L



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11 Mar 98
WELL No.: MW3m2 CLIMATIC CONDITIONS: 25°F Clear TIME: 0900
REMARKS: _____ SAMPLER: SD RP

WELL PURGING: _____ STATIC WATER LEVEL: 47.0' ft. WELL DEPTH: 216' ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1025	0	6.43	6.43	133.2	104	104	-1.43	100ml/m ^{OTW} 46.95'
1035	1	6.46	6.41	59.8	96	94.1	-0.17	
1055	3	6.28	6.45	23.8	91	115.5	-0.66	
1115	5	6.14	6.99	131.6	91	118.9	0.17	100ml/m ^{OTW} 46.9'
1135	7	6.34	7.04	103.1	91	114.4	0.20	
1155	9	6.43	7.10	95.3	92	106.2	0.27	100ml/m DTW - 47.4'
1215	11	6.45	7.16	83.2	93	104.4	0.22	
1235	15	7.50	7.16	86.5	92	95.1	0.20	200ml/m DTW 46.5'
1255	19	7.86	7.20	80.2	84	95.9	0.20	
1315	21	7.54	7.17	85.7	80	104.6	0.28	100ml/m DTW 46.9'
1335	23	7.49	7.13	85.0	80	106.4	0.48	
1355	25	7.47	7.14	82.2	81	111.3	0.38	

SAMPLE WITHDRAWAL METHOD: low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): _____

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>5 MAR 98</u>						
WELL No.: <u>MW3D</u>		CLIMATIC CONDITIONS: _____		TIME: <u>1455</u>						
REMARKS: <u>Split Sample with TRC</u>		SAMPLER: <u>CH/JD</u>								
WELL PURGING:		STATIC WATER LEVEL: <u>46.63</u> ft		WELL DEPTH: _____ ft						
LENGTH OF SATURATED ZONE: _____										
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = <u>NA</u> gals.										
REMOVAL METHOD: <u>Bladder slow flow</u>		PUMPING RATE: <u>See Comments</u> ml/min.								
WELL PURGE DATA:										
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Pumping Rate	COMMENTS	DTW
1455	1.0	8.15	6.45	25.8	118	169	3.26	300 ml/min		46.60
1505	4.0	8.43	6.69	42.1	89	163	1.31			
1515	7.0	7.98	6.68	26.2	90	163	0.90	200 ml/min		
1525	9.0	7.90	6.70	22.1	90	162	0.75			
1535	11.0	7.86	6.71	25.8	89	162	0.76			
1545	13.0	7.95	6.72	28.7	90	163	0.69	300 ml/min		
1555	16.0	8.29	6.72	30.3	89	163	0.67			
1605	19.0	8.32	6.72	25.1	89	164	0.62			
1615	22.0	8.34	6.73	23.2	89	164	0.57			
1625	25.0	8.32	6.73	20.8	89	164	0.57			
1635	28.0	8.31	6.73	17.4	89	164	0.54			
1645	31.0	8.31	6.74	16.8	89	165	0.53		End of day 5 Mar 98	
SAMPLE WITHDRAWAL METHOD: <u>low flow bladder pump</u>										
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>										
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>										
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>11 40 ml; 9 1 L Amber; 4 1 L Poly</u>										
SAMPLE ID NUMBER(S): <u>Sample - W03DDA/W03DDL</u>										
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>										
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>Decon GAC System</u>										
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____										
DATE: _____ TIME: _____										
CASING CAPACITY (gallons/linear foot)										
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87										
Well Screen Volume = 0.041(d) ² h										
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)										

MW3D

6 MAR 98

	LITERS							
TIME	REMOVED	TEMP	pH	TURBIDITY	COND	ORP	DO	COMMENTS
0745	32	7.94	6.32	14.0	90	165	5.68	300ml/min
0755	35	8.04	6.54	46.3	90	160	3.32	
0805	38	8.05	6.62	33.4	90	158	2.46	
0815	41	8.15	6.65	34.1	90	159	2.38	
0825	44	8.04	6.67	32.5	90	159	2.28	
0835	47	8.09	6.67	32.4	90	160	2.27	300ml/min
0845	50	8.30	6.69	25.6	90	160	2.16	
0855	53	8.41	6.70	25.2	90	159	2.10	
0905	56	8.46	6.69	19.7	90	159	1.93	
0915	59	8.41	6.69	17.3	89	159	1.90	
0925	62	8.31	6.70	20.2	89	159	1.93	
0935	65	8.46	6.69	21.4	89	159	1.91	
0945	68	8.41	6.69	19.1	89	160	1.90	
0955	71	8.58	6.70	18.0	89	160	1.83	
1005	74	8.50	6.69	16.2	89	160	1.79	
1015	77	8.61	6.69	15.6	89	160	1.77	
1025	80	8.51	6.70	13.5	89	160	1.73	300ml/min
1035	83	8.80	6.70	14.2	89	159	1.75	
1045	86	8.68	6.70	14.7	90	158	1.74	
1055	89	8.71	6.70	18.1	90	158	1.84	
1105	92	8.86	6.70	17.9	89	158	1.78	
1115	95	8.93	6.70	19.2	89	156	1.67	
1125	98	9.05	6.70	14.6	89	154	1.75	
1135	101	8.92	6.70	15.0	89	155	1.73	
1145	104	8.68	6.70	14.2	89	156	1.66	
1155	107	9.17	6.70	15.2	89	156	1.76	
1200 -	collect sample							
1220 -	Colorimetric DO =	1 mg/L						
1320	Final Turb prior to metals collection =	15.66 NTU						



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER:	3-3100-0103	LOCATION:	MMR	DATE:	10/4/97			
WELL No.:	MW-4	CLIMATIC CONDITIONS:	RAIN-55°F	TIME:	0820			
REMARKS:	old MMSA split w/ RRC		SAMPLER:	CCH & K				
WELL PURGING:	STATIC WATER LEVEL:		139.88'	WELL DEPTH:				
LENGTH OF SATURATED ZONE:								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES =								
REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.								
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0820	0	10.78	5.66	2.67	60	431.0	14.84	
0825	0.5	10.76	5.73	0.87	60	430.3	14.94	
0830	1.0	10.73	5.75	0.58	60	435.2	14.66	
0835	1.5	10.72	5.78	0.85	60	429.6	14.67	
0840	2.0	10.73	5.80	0.82	60	436.6	14.74	
0845	2.5	10.75	5.82	0.82	60	434.0	14.77	
TURBIDITY WITHOUT FLOW CELL - 1.32 NTU								
Colorimetric DO = 12 mg/L								
Colorimetric pH = 5.73 (MTC) 1; TOC (H ₂ SO ₄) = 1; EDTA (H ₂ O) = 5; H ₂ L (H ₂ O) = 1;								
Pb (H ₂ O) = 1; Cu (H ₂ O) = 1; Zn (H ₂ O) = 10;								
SAMPLE WITHDRAWAL METHOD:						Slow Flow Bladder		
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:						VOC (HCl); EDB (Na-S ₂ O ₃); MTBE (HCl);		
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED:						33 40 ml; 27 L Amber; 12 L Poly		
SAMPLE ID NUMBER(s):						W04SSE, W04SSA, & W04SSL		
DECON METHOD:						Liquidnox wash; DI rinse; Methonal Rinse; DI rinse		
PURGE WATER DISPOSED OF IN DRUM NUMBER:								
SAMPLES DELIVERED TO:						ITS		
DATE:						TRANSPORTER:		
TIME:								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d1) ² -(d2) ²]h(0.3)								

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10 FEB 98
 WELL No.: MW-55 CLIMATIC CONDITIONS: Scattered clouds; 45% breezy TIME: 1900
 REMARKS: _____ SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 115.13 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals

REMOVAL METHOD: Bladder slow flow PUMPING RATE: _____ ml/min

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1420	0	8.00	6.95	6.21	10	193	13.65	100 ml/min 115.14' to
1430	1.0	8.41	6.33	27.2	32	236	12.25	
1440	2.0	8.15	6.38	85.6	44	293	10.66	
1450	3.0	8.13	6.99	60.9	48	243	9.83	200 ml/min
1500	5.0	8.66	6.54	81.5	50	249	9.63	DTC 115.15
1510	7.0	8.63	6.56	92.0	51	254	9.57	
1520	7.0	8.61	6.58	113.0	51	257	9.56	
1530	11.0	8.54	6.59	121	51	260	9.51	200 ml/min
1540	13.0	8.53	6.60	124	51	262	9.46	DTC 115.13' to
1550	15.0	8.50	6.59	130	51	264	9.49	
1600	17.0	8.40	6.60	130	51	264	9.53	
1610	19.0	8.32	6.61	133	51	264	9.59	
1620	21.0	8.35	6.61	132	51	265	9.56	END of DAY 10 FEB 98

SAMPLE WITHDRAWAL METHOD: Bladder Pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (Na₂S₂O₃), MIBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): ER = W055SE; SAMPLE W055SA/W055SL

DECON METHOD: Liquidnox wash; DI rinse; Melfonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DELON GAC SYSTEM

SAMPLES DELIVERED TO: ITS

TRANSPORTED: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.00, 12" = 6.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2] \cdot h(0.3)$

14' Tax



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11 FEB 98

WELL No.: WOSM1 CLIMATIC CONDITIONS: clear, wind, 55°F TIME:

REMARKS: SAMPLER: CH/JD

WELL PURGING: STATIC WATER LEVEL: 115.03 ft. WELL DEPTH: ft.

LENGTH OF SATURATED ZONE:

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1445	0	9.18	6.58	92.3	71	240	22.40	200 ml/min DTW 115.03
1455	2	8.98	6.86	35.4	74	243	12.23	
1505	4	8.84	6.99	30.1	73	246	11.80	200 ml/min DTW 115.08
1515	6	8.86	7.04	29.5	71	249	11.72	
1525	8	8.70	7.07	24.3	66	252	11.58	
1535	10	8.59	7.08	21.6	66	255	11.53	
1545	12	8.39	7.08	26.8	66	258	11.53	200 ml/min DTW 115.08
1555	14	8.25	7.04	25.1	64	261	11.54	
1605	16	8.13	7.08	21.4	62	265	11.55	
1615	18	8.09	7.07	19.3	62	267	11.53	END of DAY 11 FEB 98
0740	19	8.42	6.82	15.54	67	178	19.96	START 12 FEB 98
0750	20	8.95	6.93	14.76	65	202	12.50	100 ml/min DTW 115.03
0800	21	9.02	6.96	8.57	63	194	12.46	

SAMPLE WITHDRAWAL METHOD: BLADDER PUMP

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (H₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Post (None); Alk (None); CH (NaOH); NO₂/H₂O₂ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): ER = WOSMIE; SAMPLE = WOSMIA; WOSMIL

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON HAC SYSTEM

SAMPLES DELIVERED TO: ITS TRANSPORTER:

DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 6.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

12 FEB 98

	LITERS							
TIME	REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0820	22	8.79	6.95	8.46	62	196	12.62	
0820	23	8.76	6.97	8.73	61	209	12.57	
0830	24	8.64	6.97	8.69	62	222	12.57	
0840	25	8.69	7.01	8.93	63	231	12.52	100ml/min
0850	26	8.69	7.01	8.47	63	238	12.34	
0900	27	8.78	7.01	8.61	62	244	12.30	
0910	28	8.90	7.01	7.82	61	250	12.30	
0920	29	8.90	7.00	7.20	59	256	12.21	
0930	30	8.97	6.99	8.02	58	261	12.17	
0940	31	8.92	6.97	6.19	58	265	12.23	
0950	32	8.91	6.96	6.11	57	270	12.32	
0955	32.5	8.87	6.94	5.72	57	272	12.40	
1000	33.0	8.83	6.93	5.23	57	274	12.36	
1005	33.5	8.82	6.93	5.17	57	275	12.36	
1010	34.0	8.83	6.93	5.02	57	276	12.35	
1015 =	collect sample							
1030	Collect colorimetric DO							
	FINAL TURA = 4.83 NTU							



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 2/17/98
WELL No.: NW5M2 CLIMATIC CONDITIONS: 40° Cloudy TIME: 1030
REMARKS: _____ SAMPLER: F0, J1, & Jc

WELL PURGING: _____ STATIC WATER LEVEL: 115.00 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1045	0	7.39	6.71	259	35	70	9.14	FlowRate =
1055	1	8.11	6.87	708	74	-44	9.25	100 ml/min
1115	3	8.28	6.97	341	73	-56	7.95	DTW = 115.00'
1135	5	8.17	7.00	259	70	-50	7.52	
1155	7	8.08	6.98	188	67	-44	7.39	
1215	9	8.04	6.98	151	65	-40	7.69	
1235	11	8.03	6.95	113	63	-34.4	7.76	
1255	13	7.99	6.92	71	60	-175	7.60	
1315	15	7.99	6.88	63	59	-15	8.16	FlowRate =
1335	17	8.04	6.86	51	57	-5	7.75	100 ml/min
1355	19	8.00	6.83	37	54	11	7.79	DTW = 115.00'
1415	21	7.97	6.80	37	54	14	7.78	
1435	23	7.93	6.77	30	52	15	7.88	

SAMPLE WITHDRAWAL METHOD: Slow Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Post (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED:

11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s):

W07M2A & W07M2L

DECON METHOD:

Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER:

Poly Tank @ Decon Pad

SAMPLES DELIVERED TO:

ITS

TRANSPORTER:

DATE:

TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 6.97

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

[illegible]

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 12 FEB 78

WELL No.: MW5D CLIMATIC CONDITIONS: overcast, heavy winds, 45°F TIME: 1330-1305

REMARKS: _____ SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 115.04 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1330	0	8.16	6.33	22.3	23	80.0	15.04	100 ml/min DTW 110.65
1330	1.0	8.51	8.72	23.0	121	-286	9.85	
1340	2.0	8.53	8.72	71000	95	-359	9.77	
1350	3.0	8.42	8.60	71000	86	-368	3.12	200 ml/min
1400	5.0	8.80	8.53	71000	85	-397	1.89	
1420	9.0	8.84	8.46	71000	92	-428	0.86	
1440	13.0	8.80	8.33	906	97	-376	0.70	
1500	17.0	8.87	8.34	939	94	-371	0.83	
1530	23.0	8.88	8.39	963	70	-381	1.50	200 ml/min
1550	27.0	8.79	8.41	900	89	-380	1.06	DTW 115.23
1610	31.0	8.66	8.42	900	89	-370	1.09	
1620	33.0	8.62	8.42	863	89	-368	1.15	END OF DAY 12 FEB 78

SAMPLE WITHDRAWAL METHOD: BLADDER PUMP

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (H₂S₂O₃), MTBE (HCl), TOC (H₂SO₄), SVOC (None), EXP (None), Herb (None), PCB/Post (None), Alk (None), CN (NaOH), NO₂/NO₃ (H₂SO₄), Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): ER = W05DDE; Sample = W05DDA; W05DDL

DECON METHOD: Liquidnox wash; DI rinse; Methronal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DELON GAC SYSTEM

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)
 2" = 0.16, 4" = 0.05, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$
 Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2] \cdot h(0.3)$

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0750	37.0	8.27	8.05	409	104	-290	5.84	DTW 115.39
0800	40.0	8.29	8.28	373	103	-345	3.80	300 ml/min
0810	43.0	8.33	8.49	593	104	-397.8	1.33	
0830	49.0	8.39	8.54	466	103	-377.5	1.14	
0850	55.0	8.54	8.59	385	104	-355.6	1.50	
0910	61.0	9.01	8.63	315	104	-351	1.61	
0930	67.0	8.21	8.62	252	104	-324.4	1.81	
0950	73.0	8.66	8.64	328	104	-351.4	1.83	
1010	81	8.71	8.61	294	102	-310.7	2.22	400 ml/min
1030	89	8.73	8.61	230	100	-302.5	2.31	
1050	97	8.72	8.60	225	99	-289.5	2.54	
1110	115	8.67	8.59	240	98	-278.7	2.75	
1130	223	9.33	8.59	270	98	-255.7	3.05	
1150	231	9.32	8.59	269	99	-271.7	3.05	
1210	239	9.32	8.61	249	98	-272.9	3.08	400 ml/min
1230	247	8.85	8.61	250	98	-271.8	2.99	DTW - 115.48
1235	247.5	8.46	8.63	215	98	-268.6	3.08	Flowrate 100 ml/min
1240	248.0	8.35	8.63	208	98	-264.6	3.11	
1245	248.5	8.31	8.63	170	98	-259.1	3.16	
1250	249.0	8.33	8.62	197	97	-257.2	3.17	
1255	249.5	8.38	8.62	193	97	-259.7	3.23	DTW - 115.441

DO = 2 mg/L

Final Turbidity Reading = 256 NTU's

Sample Collection Time - 13:00



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 5 Nov 97
WELL No.: MW06 CLIMATIC CONDITIONS: clear, Sunny, Windy, 55°F TIME: 08:00
REMARKS: Dup & MS/MSD collected / TRC split SAMPLER: CH/KD

WELL PURGING: _____ STATIC WATER LEVEL: 109.76 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0810	0	10.48	5.12	2.95	38	460.4	13.03	
0815	0.5	10.53	5.58	1.77	54	460.9	11.28	
0820	1.0	10.69	5.73	1.36	59	480.2	11.01	
0825	1.5	10.72	5.78	1.16	60	455.0	11.01	DTW - 109.76
0830	2.0	10.78	5.83	0.82	61	455.2	11.04	
0835	2.5	10.85	5.84	0.98	62	455.9	11.06	
0840	3.0	10.92	5.86	1.03	62	456.7	11.06	DTW 109.75
0845 - collect sample								100 ml / min.
Colorimetric DO = 12 mg/L								
10:05 - DTW = 109.75' TOC								
No PH readings (colorimetric) collected for VOC (MTBE, PDS & TOL) & METALS -								
Colorimetric pH (10.04) = 10; PDS - NO ₂ - NO ₃ (H ₂ SO ₄) = 8; TOL = 8								

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 44 40 ml; 34 L Amber; 14 L PolySAMPLE ID NUMBER(S): W006SA/W006SSL; W006BD/W006SDLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/30/97
WELL No.: MW75 CLIMATIC CONDITIONS: CLEAR, 55°F TIME: _____
REMARKS: _____ SAMPLER: CCH & KN

WELL PURGING: _____ STATIC WATER LEVEL: 104.95 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1425	0	11.37	6.76	3.85	57	-3.2	11.13	
1430	0.5	11.11	6.72	3.33	57	-27.4	10.29	
1435	1	11.25	6.66	3.24	58	-47.9	9.72	
1440	1.5	11.27	6.63	NA	58	-51.1	9.39	
1445	2.0	11.31	6.61	3.26	58	-55	8.98	DTW 105-
1450	2.5	11.21	6.60	3.15	58	-61.4	8.74	
1455	3.0	11.28	6.59	4.96	58	-66.4	8.67	
1500	3.5	11.34	6.59	3.21	58	-67.8	8.61	DTW - 105 Ft
1505	4.0	11.22	6.59	2.86	58	-72.4	8.61	
1510	4.5	11.23	6.59	3.07	58	-72.5	8.76	
1515	5.0	11.23	6.59	4.13	58	-77.8	9.10	
1520	5.5	11.17	6.59	3.58	58	-75.8	9.41	

SAMPLE WITHDRAWAL METHOD: Slow Flow BladderLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): W07SSA & W07SSLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

MW075

0745

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0735	5.5	10.13	6.50	5.19	79.00	18.1	13.75	Start 31 Oct 97
0740	6.0	10.04	6.45	3.30	73.00	24.0	12.14	Flow Rate
0745	10.5	10.05	6.43	2.44	71.00	-73.5	9.16	100ml/min
0750	7.0	10.11	6.43	2.90	70.00	-122.2	8.08	
0755	7.5	10.15	6.44	2.30	69.00	-155.9	7.97	
0758	7.8	10.20	6.44	2.40	68.00	-191.5	7.52	
0805	8.6	10.22	6.45	2.49	68	-214.3	7.23	
0810	9.1	10.25	6.45	2.39	67	-232.3	6.95	
0815	9.4	10.28	6.46	2.70	67	-237.5	6.75	
0818	9.9	10.30	6.46	2.67	67	-243.9	6.74	
0821	10.2	10.34	6.46	2.63	67	-234.0	6.75	
0830		10.46	6.47		68	249.1	6.50	

Collect sample @ 0830 W07SSA / W07SSL

pH MTBE / VOC (HCL) = 1

pH EOB (Na₂SO₃) = 5

pH TOC (H₂SO₄) = 1

pH Metals (HNO₃) = 2

pH Dis Metals (HNO₃) = 1

pH CN (NaOH) = 5

pH P₂W₅ / AlO₂-NO₂ (H₂SO₄) = 1

Colorimetric paper strips

Colorimetric DO = 6 mg/L

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 23 JAN 98
 WELL No.: MWD7M1 CLIMATIC CONDITIONS: overcast, Windy TIME: 3:00 PM, snow
 REMARKS: _____ SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 106.14 ft WELL DEPTH: _____ ft
 LENGTH OF SATURATED ZONE: _____
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.
 REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1000	0	5.62	6.50	41.8	54	191	19.02	100ml/min
1010	1.0	6.03	6.97	209	104	206	7.39	
1020	2.0	6.02	7.18	205	107	205	4.53	
1030	3.0	6.29	7.28	344	108	203	3.37	100ml/min DTW 106.65
1040	4.0	6.41	7.35	530	108	201	2.21	
1100	6.0	6.38	7.43	811	108	198	1.03	100ml/min DTW 106.62
1120	8.0	6.48	7.46	892	108	196	0.90	
1140	10.0	6.58	7.48	962	108	194	0.71	
1200	12.0	6.65	7.5	907	108	192	0.54	100ml/min DTW 106.65
1220	14.0	6.71	7.51	736	108	191	0.45	
1240	16.0	6.62	7.52	671	108	189	0.34	
1300	18.0	6.61	7.53	592	108	188	0.26	
1320	20.0	6.84	7.53	514	107	186	0.20	100ml/min DTW 106.74

SAMPLE WITHDRAWAL METHOD: Bladder Pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
 TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): MWD7M1E - ER; MWD7M1A/MWD7M1E

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAC SYSTEM

SAMPLES DELIVERED TO: ITC TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²h

Saturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)

100ml/mu DTu) 106.62

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 4 FEB 98
 WELL No.: MW 7M2 CLIMATIC CONDITIONS: cloudy, Windy TIME: 1230
 REMARKS: _____ SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 106.42 ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.
 REMOVAL METHOD: Bladder slow flow PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1230	0	7.38	6.12	0.78	14	188	12.11	200 ml/min 106.42'
1240	2	7.40	5.94	23.7	13	243	19.34	
1250	4	8.19	6.27	21000	63	279	19.11	
1310	8	8.76	6.46	26.7	61	296	13.82	200 ml/min 106.43' TO
1330	12	8.84	6.41	534	56	308	12.63	
1350	16	8.74	6.36	209	51	317	12.07	200 ml/min
1410	20	8.70	6.28	225	50	326	12.04	
1430	24	8.60	6.26	186	49	333	12.31	
1450	28	8.54	6.24	183	49	340	12.31	200 ml/min - 106.40' TO
1510	32	8.53	6.23	185	48	347	12.40	
1530	36	8.45	6.21	130	48	352	12.33	400 ml/min 106.41' TO
1550	38	7.22	6.20	115	48	355	12.70	
1600	39	6.92	6.20	115	48	360	12.81	

SAMPLE WITHDRAWAL METHOD: BLADDER PUMP

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 1 L Amber; 1 L Poly

SAMPLE ID NUMBER(s): ER: W07M2E; SAMPLE W07M2A; W07M2L

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAS SYSTEM

SAMPLES DELIVERED TO: JIS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

END of DAY 4 FEB 78
DTW 106.37, 200ml/hr



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/30/97
WELL No.: MLW7D CLIMATIC CONDITIONS: Clear, 55°F TIME: 1450
REMARKS: _____ SAMPLER: CCH/KD

WELL PURGING: _____ STATIC WATER LEVEL: 105.16 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 120 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Flow rate	COMMENTS	DTW
1450	0.0	11.64	6.44	170.1	70	22.5	8.38	200 ml/min		
1501	1.32	11.10	6.49	244	68	45.3	7.92			
1511	2.52	10.73	7.03	283	67	153.8	7.65			
1521	3.72	10.60	7.03	294	67	189.8	7.93			105.2'
1531	4.92	10.33	7.05	258	66	300.5	7.93			
1541	6.12	10.38	7.09	252	65	324.1	7.93			
1551	7.12	10.52	7.10	253	66	343.8	8.20	100 ml/min		105.2'
1601	8.12	11.07	7.15	255	66	356.7	8.36			
1611	9.12	10.79	7.14	194.4	64	365.8	8.73			
1621	10.12	10.68	7.13	189.4	63	365.7	8.93			
0711	10.12	11.02	6.37	168.3	86	200.0	10.70	310CT97		105.27
0755	16.72	10.13	6.43	172.9	70	-132.7	8.03	150 ml/min		

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): W07DDA, W07DDLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

MWD7D - 31 Oct...

TIME	REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
8:05	18.22	10.43	6.99	193.2	68	215.3	9.09	
8:25	21	10.39	6.46	NA	68	251.5	6.75	
8:45	24	10.78	7.26	172.2	69	226.5	8.63	
09:05	27	11.32	7.33	169.5	67	229.4	7.42	100/ml/min
09:15	28	11.56	7.36	156.6	67	231.1	9.60	DTW 105.30
09:25	29	11.59	7.37	157.7	67	231.9	9.22	
09:35	30	11.59	7.39	149.8	66	231.2	9.73	
09:45	31	11.77	7.40	NA	67	233.3	9.66	
09:55	32	11.75	7.41	159.7	67	234.2	9.60	
10:05	33	11.19	7.43	157.5	66	236	9.58	pinging rate 30
10:15	36	10.12	7.38	155.5	64	239	9.58	
10:25	39	10.27	7.43	154	64	237	9.55	
10:35	42	10.27	7.44	142	64	237	9.88	
10:45	45	10.36	7.46	126.9	61	237.2	10.83	
11:00	49.5	10.41	7.47	124.0	60	237.3	10.93	
11:20	52.5	10.39	7.47	126.1	59	237.6	10.90	
11:30	55.5	10.44	7.48	124.3	59	237.8	10.93	
11:40	58.5	10.53	7.47	124.0	59	237.2	10.91	DTW 105.25
11:50	61.5	10.21	7.46	124.7	59	241.5	10.94	
12:00	64.5	10.21	7.46	122.5	59	243.5	10.89	
12:10	67.5	10.20	7.47	124.0	59	244.8	10.96	
12:20	70.5	10.17	7.48	123.6	58	246.5	10.95	
12:30	73.5	10.24	7.49	124.5	58	247.3	10.90	
12:40	76.5	10.20	7.48	121.5	58	249.2	10.92	

TURB W/D FLOW CELL PRIOR TO SAMPLING = 122 NTU's

VOLUMETRIC PH

$$VOC / MTBE (HCl) = 1$$
$$\text{BDB} (N_{\alpha}, S, P) = 5$$

TOC (H_2SO_4) = 1

IMETALS (HNO₃) = 2

$$D_{MB-A2}(HN_{13}) = 2$$
$$\frac{CN(NaOH)}{\sqrt{\quad}} = 4$$
$$\frac{PHOS}{NO_2-NO_3}(H_2SO_4) = 2$$

Colorimetric DO = 11 mg/L

TURB PRIOR TO METALS COLLECTION 117 LNTUS



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/29/97WELL No.: W0885 CLIMATIC CONDITIONS: Clear 60°F TIME: 1510REMARKS: MSMSD SAMPLER: KD & CCHWELL PURGING: ☐ STATIC WATER LEVEL: 106.23 ft TOE WELL DEPTH: ftLENGTH OF SATURATED ZONE: VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 1.00 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1510	0	12.01	6.12	18	34	151.6	12.52	*TURBIDITY
1520	1	10.65	5.89	11.70	30	159.1	11.90	Water Reading
1525	1.5	10.60	5.83	9.60	29	169.7	11.74	18 NTU's For
1530	2.0	10.51	5.77	8.31	29	176.5	11.60	0.02 NTU STAND.
1535	2.5	10.48	5.74	7.60	29	175.4	11.51	@ 1520 STAND.
1540	3.0	10.42	5.71	7.23	29	177.6	11.43	Read c. 18 NTU's
1545	3.5	10.37	5.68	6.7	29	181.5	11.33	
1550	4.0	10.33	5.67	6.93	29	182.7	11.28	
1555	4.5	10.29	5.66	5.15	29	185.4	11.21	
1600	5.0	10.26	5.65	4.31	29	187.6	11.19	
1605	5.5	10.23	5.65	3.98	29	189.1	11.14	
1610	6.0	10.21	5.65	3.92	29	190.0	11.11	Stop pumping 27 Oct 97

SAMPLE WITHDRAWAL METHOD: Slow Flow BladderLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 33 40 ml; 27 L Amber; 12 1 L PolySAMPLE ID NUMBER(s): W0885E, W0885A, & W0885LDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITSTRANSPORTER: DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

MWGS

30 OCT 97	LITERS							
TIME	REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0730	6.5	10.84	6.91	3.83	55.00	104.7	38.58	Start pumping system 10/
0735	7.0	10.34	6.50	2.55	45.00	104.5	38.24	Pumping rate 1.5 l/min
0740	7.5	10.31	6.41	1.62	47.00	107.7	38.24	
0745	7.5	10.37	6.34	1.61	47	111.4	38.40	
0750	8.0	10.35	6.22	1.04	46.00	122.0	38.54	
0755	8.5	10.44	6.11	1.05	45.00	131.0	38.57	
0800	8.8	10.48	6.00	1.02	45.00	135.0	38.58	
0805	9.1	10.46	6.03	1.02	45.00	143.3	38.61	
0800 - collect sample W0855A / W0855B - 30 OCT 97								
pH of HCL FOR VOC'S & MTBE - 1								
pH of Na2S2O3 FOR ENB - 5								
pH of H2SO4 FOR TCE - 1								
TURB goes to collecting metals (final reading) @ 30 NTUs								
pH of HNO3 FOR METALS - 1								
pH of dissolved metals = 2.0 (HNO3)								
Colorimetric DO = 11 mg/L								
pH Phos / NO2-NO3 (H2SO4) = 2								
pH CN (NaOH) = 9								



GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/29/97
WELL No.: MW9 CLIMATIC CONDITIONS: Sunny 55° TIME: 8:20
REMARKS: DUP SAMPLER: CCH & KD

WELL PURGING: _____ STATIC WATER LEVEL: 114.90 ft WELL DEPTH: 123.70 ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
8:40	0	10.18	5.74	10.1	0.041	151.7	11.96	
8:45	0.5	10.32	5.76	9.0	0.041	155.4	11.99	
8:50	1.0	10.47	5.72	8.2	0.039	161.2	12.04	
0855	1.5	10.41	5.68	7.46	0.037	165.3	12.11	DTW 115.00
0900	2.0	10.49	5.61	6.30	0.036	167.5	12.13	
0905	2.5	10.56	5.64	4.38	36.00	170.9	12.19	start Cond ms/cm
0910	3.0	10.30	5.63	7.60	35.00	173.4	12.22	
0915	3.5	10.28	5.62	6.53	35.00	175.9	12.15	
0920	4.0	10.35	5.62	6.29	35.00	177.0	12.17	
0925	4.5	10.48	5.63	6.70	36.00	178.3	12.19	
0930	5.0	10.60	5.62	6.90	36.00	179.1	12.20	turb 584 - recalibrate Turb
0935	5.5	10.71	5.63	3.40	36.00	180.1	12.23	DTW 115.00' Toc

SAMPLE WITHDRAWAL METHOD: Slow Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 22 40 ml; 1 B 1 L Amber; 3 1 L PolySAMPLE ID NUMBER(s): W09SSD, W09SSA, & W09SSEDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

290CT92

pH OF H_2SO_4 FOR PHOSPHOROUS/ANIONA/N-TRATE-N-TRATE-

PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>11/6/97</u>	
WELL No.: <u>MW105</u>		CLIMATIC CONDITIONS: <u>Sunny ~50°F</u>		TIME: <u>8:30</u>	
REMARKS: <u>Duplicate Sample collected</u>				SAMPLER: <u>TD, RP</u>	

WELL PURGING:		STATIC WATER LEVEL: <u>148.12</u> ft		WELL DEPTH: _____ ft	
LENGTH OF SATURATED ZONE: _____					
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES =				<u>NA</u> gals.	
REMOVAL METHOD: <u>Bladder slow flow</u>		PUMPING RATE: <u>275</u>		ml/min.	

WELL PURGE DATA:								Draw Down	Pumping Rate	
TIME	Gallons LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO			
0755	1.0	9.89	5.77	0.78 NTU	58.0	198.3	7.78	0	275	
0800	1.3	9.98	5.73	0.56	59.0	190.2	7.49		350	
0805	1.8	10.01	5.72	0.48	60.0	183.8	7.39			
0810	2.2	9.95	5.71	0.46	60.0	179.7	7.37	0		
0815	2.6	9.94	5.71	0.52	60.0	175.8	7.43			
0820			5.70	0.57	60.0	175.0	7.41	0		
0830	Sampled Well									
	DO = 7 mg/L									

SAMPLE WITHDRAWAL METHOD: <u>Low flow bladder pump</u>	
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>	
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>	
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: <u>22 40 ml; 18 1 L Amber; 8 1 L Poly</u>	
SAMPLE ID NUMBER(s): <u>W1055A, W1055D</u>	
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>	
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>Decon GAC System</u>	
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____	
DATE: _____ TIME: _____	

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²h

Saturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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mw-10m

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11-25-97
WELL No.: 10-Intermediate CLIMATIC CONDITIONS: Clear, 35° TIME: 0755
REMARKS: _____ SAMPLER: TD, KD

WELL PURGING: _____ STATIC WATER LEVEL: 147.26' ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 150 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0755	0.5	4.78	6.71	44.2	121	223.9	19.50	Static WL: 147.26
0815	4.0	8.07	6.80	76.7	120	253.7	20.86	Flow Rate: 150 ml/min
0835	7.0	8.36	6.81	72.5	115	276.4	21.15	"
0855	10.0	8.71	6.78	55.2	105	290.4	20.84	"
0915	13.0	8.63	6.73	43.5	96	301.6	20.48	"
0935	17.0	8.72	6.66	34.3	90	310.1	20.23	Flow Rate Change: 200 ml/min
0955	21.0	8.78	6.62	28.9	87	318.9	20.20	DTW: 147.23
1015	24.0	8.73	6.59	28.4	85	322.9	20.55	
1035	27.0	8.93	6.57	22.5	85	327.1	20.41	Pump stops @ 1045
1125	31.0	6.56	6.55	29.3	81	341.5	19.59	Restarts @ 1125
1140	33.5	7.77	6.62	20.8	83	336.8	19.65	Flow Rate: 200 ml/min
1150	35.5	9.00	6.61	21.0	85	336.5	20.16	DTW: 147.24

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder, MS/MSD Sample collected.LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 26 40 ml; 21 1 L Amber; 16 1 L PolySAMPLE ID NUMBER(S): W10M1A and W10M1ADECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

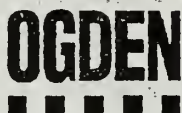
TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

Turbidity before Metals Samples: 19.4 NTUs



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/5/97
WELL No.: MW10D CLIMATIC CONDITIONS: Sunny 255°F TIME: 1115
REMARKS: DO = < 1 ppm SAMPLER: JH/RPTN

WELL PURGING: STATIC WATER LEVEL: 148.08 ft WELL DEPTH: 361.5 ft

LENGTH OF SATURATED ZONE:

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 250 ml/min.

WELL PURGE DATA:

TIME	gallons REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	drawdown rate l/min	drawdown cm/min
845	~1	10.37	7.0	157	102	-237	4.43	0.24	Ø
850		10.65	7.26	109	103	-298	2.27		Ø
855		10.60	7.30	114	103	-304	3.0	0.2	Ø
900	~2	10.68	7.39	71	103	-346	1.26		
905		10.70	7.46	69	103	-340	1.2		
910		10.79	7.47	56	102	-351	1.0		
915	~3	10.85	7.45	52.5	101	-354	0.82	0.2	Ø
920		10.66	7.48	50.8	98	-356	0.61		
925		10.63	7.48	46.9	96	-365	0.65		
930	~4	10.59	7.48	45.5	96	-368	0.69	0.2	Ø
935		10.67	7.48	36.6	91	-341	0.61		
940		10.75	7.48	32.6	89	-330	0.54		
945	~5	10.73	7.47	30.2	88	-323	0.55	0.2	Ø

SAMPLE WITHDRAWAL METHOD: low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 9 VOC (HCl), 9 EDB (Na₂S₂O₃), 9 MTBE (HCl);6 TCC (H₂SO₄), 6 SVOC (None), 6 EXP (None), 6 Herb (None), 6 PCB/Pest (None), 6 Alk (None), 3 CN (NaOH), 3 NO₂/NO₃ (H₂SO₄), 3 Metals (HNO₃) total dissolved

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 1 L Amber; 1 L Poly

SAMPLE ID NUMBER(s): W1000A + MS/MSD

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER:

Decon GAC System

SAMPLES DELIVERED TO: ITS

TRANSPORTER:

DATE:

TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²hSaturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)

HW101D

TIME	LITERS gal. REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	rate Drowdown COMMENTS
950		10.66	7.47	29.8	87	-317	0.57	
955		10.70	7.47	29.1	87	-316	0.55	
1000	~6	10.71	7.47	28.4	87	-315	0.52	6.25 g
1005		10.71	7.47	26.5	87	-307	0.58	
1010		10.75	7.47	25.3	86	-305	0.52	
1015	~7	10.77	7.46	25.3	86	-307	0.52	
1020		10.78	7.46	24.9	86	-300	0.49	
1025		10.78	7.46	23.8	86	-301	0.49	
1030		10.76	7.46	22.7	86	-299	0.77	
1035		10.74	7.45	21.6	84	-285	0.47	
1040		10.74	7.45	20.8	84	-282	0.46	
1045		10.72	7.45	20.1	84	-284	0.46	
1050		10.75	7.44	19.9	84	-280	0.46	
1055		10.74	7.45	19.9	84	-283	0.46	
1100				19.8				
1105				19.8				

sample at 1115



GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 5 Nov 97
WELL No.: W0015 CLIMATIC CONDITIONS: clear, windy TIME: 1450
REMARKS: Collect duplicate sample SAMPLER: CH/KD

WELL PURGING: STATIC WATER LEVEL: 125.86 ft. WELL DEPTH: ft.

LENGTH OF SATURATED ZONE:

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1450	2	15.82	5.00	11.95	36	424.0	10.20	250 ml/min
1500	2.5	11.59	5.95	10.43	57	330	12.15	
1505	3.0	11.34	5.93	7.42	57	356	12.16	100 ml/min
1510	3.5	11.13	5.92	5.3	57	330	12.20	75 ml/min
1515	4.0	11.0	5.92	3.96	57	402.4	12.27	
1520	4.5	10.94	5.92	3.50	58	400.0	12.32	
1525	5.0	10.83	5.92	2.36	58	405.5	12.35	
1530	5.5	10.84	5.93	2.17	59	407.4	12.39	
1535	6.0	10.81	5.94	2.70	59	412.9	12.41	
1540	6.5	10.78	5.92	2.26	60	423	12.43	
0650	7.0	9.89	6.85	1.12	65	430	12.43	start 6 Nov 97 DTW
0655	7.5	9.70	6.05	0.60	68	442	12.41	100 ml/min

SAMPLE WITHDRAWAL METHOD: Bladder Slow Flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 22 40 ml; 13 1 L Amber; 8 1 L Poly

SAMPLE ID NUMBER(s): W0055A; W0055B; W0055C; W0055D

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS

TRANSPORTER:

DATE:

TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0700	7.5	9.64	6.02	0.25	65	448	12.42	
0705	8.0	9.64	6.00	0.32	63	453	12.44	
0710	8.5	9.59	6.00	0.32	61	456	12.47	
Collect sample @ 0710								
Colorimetric PH								
VOC / MTBE (HCL) = 2								
E.O.B (METS, MS) = 6								
TOC (H ₂ SO ₄) = 2								
METALS (HNO ₃) = 3								
CN (NaOH)								
PHOS / METALS (H ₂ SO ₄) = 2								
Colorimetric DO = 12.44 mg/L								



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 6/20/97
WELL No.: W125 CLIMATIC CONDITIONS: light clouds TIME: _____
REMARKS: not in broom; 60°F SAMPLER: CH/BD

WELL PURGING: _____ STATIC WATER LEVEL: 100.01 ft TDC WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1325	0.5	11.00	5.92	1.20	30	325	12.74	100 ml/min
1330	0.5	11.00	5.74	0.75	30	334	11.87	
1335	1.0	11.00	5.81	0.77	40	339	11.83	DTW 100.03' TDC
1340	1.5	11.00	5.85	0.71	42	342	11.90	100 ml/min
1345	2.0	11.00	5.87	0.71	43	345	11.96	
1350	2.5	11.00	5.89	0.68	44	348	12.02	
1355	3.0	10.99	5.87	0.54	44	401	12.10	
1400	3.5	10.94	5.89	0.53	44	402	12.14	DTW 100.02' TDC
Collect sample @ 1400								
Colorimetric DO = 12.02								
Colorimetric pH: $\text{pH} = 14.73 - \frac{E(\text{HCl})}{2}$; $\text{pH}(\text{H}_2\text{SO}_4) = 2$; $\text{pH}(\text{HNO}_3) = 2$; $\text{pH}(\text{H}_2\text{SO}_4) = 2$; $\text{pH}(\text{HNO}_3) = 2$								
Conc (NaOH) = 11; $\text{pH}(\text{H}_2\text{SO}_4) = 2$; $\text{pH}(\text{HNO}_3) = 2$								

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 1 40 ml; 3 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): W1255A/W1255L; Equip. 1/1/97 W1255Z

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

 $2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87$ Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>27 Jan 98</u>	
WELL No.: <u>MW135</u>		CLIMATIC CONDITIONS: <u>Sunny, 30°F</u>		TIME: _____	
REMARKS: _____		SAMPLER: <u>CH/JD</u>			

WELL PURGING:	STATIC WATER LEVEL: <u>75.72</u> ft	WELL DEPTH: _____ ft
LENGTH OF SATURATED ZONE: _____		
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = <u>NA</u> gals.		
REMOVAL METHOD: <u>Bladder slow flow</u>	PUMPING RATE: <u>200 → 100</u> ml/min.	

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0935	0	6.49	6.83	832	59	166	15.85	200 ml/min 75.72
1055	4.0	7.86	6.54	375	68	204	10.14	
1015	8.0	7.82	6.55	246	70	219	8.32	
1035	12.0	7.70	6.56	158	70	228	7.74	200 ml/min 75.72
1055	16.0	8.04	6.57	83.4	70	234	7.61	
1115	20.0	8.02	6.58	54.5	70	239	6.66	
1135	24.0	8.01	6.58	36.4	70	237	4.87	200 ml/min 75.71
1155	28.0	8.11	6.59	28.7	70	226	3.24	100 ml/min
1205	29.0	7.37	6.61	22.2	70	219	2.77	
1215	30.0	7.46	6.40	17.5	70	215	2.23	
1225	31.0	7.58	6.43	15.8	70	210	1.71	
1255	32.0	7.62	6.63	15.7	70	204	1.35	
1245	33.0	7.64	6.63	15.4	70	198	1.09	

SAMPLE WITHDRAWAL METHOD: <u>Bladder pump</u>
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>11 40 ml; 9 1 L Amber; 4 1 L Poly</u>
SAMPLE ID NUMBER(s): <u>ER = W135SE; SAMPLE W135SE-1 W135SE-2</u>
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>DECON - 54-750</u>
SAMPLES DELIVERED TO: <u>ETC</u>
TRANSPORTER: _____
DATE: _____
TIME: _____

CASING CAPACITY (gallons/linear foot)

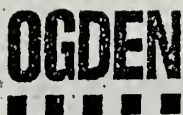
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²h

Saturated Filter Pack = 0.041[(d1)² - (d2)²]h(0.3)

mw-135

[illegible]



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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>31 Jan 98</u>				
WELL No.: <u>MW13D</u>		CLIMATIC CONDITIONS: <u>partly cloudy, H breeze, 35°F</u>		TIME: <u>0930</u>				
REMARKS:		SAMPLER: <u>OH/JD</u>						
WELL PURGING:		STATIC WATER LEVEL: <u>75.73</u> ft		WELL DEPTH: <u>224</u> ft				
LENGTH OF SATURATED ZONE: _____								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = <u>NA</u> gals.								
REMOVAL METHOD: <u>Bladder slow flow</u>		PUMPING RATE: <u>100</u> ml/min.						
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0945	0	6.91	7.81	13.4	28	87.6	21.24	100ml/min 75.04
0955	1.0	5.53	7.20	8.90	29	128	21.37	
1005	2.0	7.60	9.90	2.52	144	86.7	21.94	
1015	3.0	9.49	9.44	3.51	173	89.5	19.65	
1025	4.0	8.34	9.37	3.44	177	96.0	16.45	
1035	5.0	8.39	9.34	3.38	169	99.2	15.10	
1045	6.0	7.94	9.32	3.25	164	100.7	14.31	10 ml/min 75.04
1055	7.0	7.93	9.27	3.06	158	101.0	13.92	
1105	8.0	7.96	9.25	2.92	154	100.5	12.67	
1115	9.0	8.04	9.25	2.89	153	99.8	12.06	
1125	10.0	8.16	9.23	2.7	149	99.2	11.69	↑ 200ml/min
1135	12.0	8.19	9.20	2.62	146	99.4	11.01	
1145	14.0	8.22	9.18	2.49	140	92.5	11.5	
SAMPLE WITHDRAWAL METHOD: <u>Bladder Pump</u>								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>								
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: <u>11 40 ml; 9 1 L Amber; 4 1 L Poly</u>								
SAMPLE ID NUMBER(s): <u>ER = W13DDE; W13DDA / W13DDL</u>								
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>								
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>DECON GAS SYSTEM</u>								
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____								
DATE: _____ TIME: _____								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.85, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								

Th-bul. to p 11. 16 hrs 137 mfw



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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>4 Nov 97</u>				
WELL No.: <u>MW14</u>		CLIMATIC CONDITIONS: <u>Overcast, 60°F</u>		TIME: <u>1230</u>				
REMARKS: <u>Very slow pumping</u>		<u>lt Breeze</u>		SAMPLER: <u>CH/KD</u>				
WELL PURGING:		STATIC WATER LEVEL: <u>102.50</u> ft		WELL DEPTH: _____ ft				
LENGTH OF SATURATED ZONE: _____								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = <u>NA</u> gals.								
REMOVAL METHOD: <u>Bladder slow flow</u> PUMPING RATE: <u>100</u> ml/min.								
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1255	0	12.31	5.73	6.00	52	3.08	13.95	100 ml/min
1300	0.5	11.93	5.66	3.60	51	362	13.94	
1305	1.0	12.05	5.64	2.40	51	385	14.18	
1310	1.5	12.11	5.63	2.45	52	409	14.25	
1315	2.0	11.86	5.65	2.64	52	419	14.01	
1320	2.5	11.90	5.64	2.31	52	427	13.72	100 ml/min
1325	3.0	11.75	5.61	2.30	52	435	14.56	DTW 102.52 TOC
1330	3.5	11.78	5.62	2.05	52	439	14.35	
1335	4.0	11.70	5.62	1.98	52	441	13.63	
1340	4.5	11.64	5.61	1.12	52	444	14.34	
Sample @ 1345								
SAMPLE WITHDRAWAL METHOD: <u>Low Flow bladder pump</u>								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>								
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>								
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>11 40 ml; 9 1 L Amber; 4 1 L Poly</u>								
<u>Colorimetric D.O. = 12 mg/l</u>								
SAMPLE ID NUMBER(s): <u>W14SSA/W14SSL</u>								
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>								
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>Decon GAC System</u>								
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____								
DATE: _____ TIME: _____								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² -(d ₂) ²]h(0.3)								



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 8 Oct 97
WELL No.: MW-155 CLIMATIC CONDITIONS: ptly Cloudy, Temp 65° TIME: 1430
REMARKS: slight westerly breeze SAMPLER: JH/CH

WELL PURGING: _____ STATIC WATER LEVEL: 107.2 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 350 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Drawdown COMMENTS
1450	0	10.87	5.83	11.44	50	-190.2	11.87	0
1455	1.75	10.73	5.80	8.04	51	-198.5	10.88	0
1500	3.50	10.63	5.78	4.48	50	-197.9	11.12	0
1505	4.25	10.55	5.78	3.37	50	-175.4	11.04	0
1510	6.00	10.52	5.79	2.62	50	-187.0	10.93	0
1515	7.75	10.49	5.80	3.06	50	-193.7	10.83	0
1520	8.50	10.47	5.81	2.30	50	-191.3	10.75	0
1525	10.25	10.45	5.82	2.02	50	-190.1	10.75	0
Sampled @ 1525 - Labeled @ 1545								

SAMPLE WITHDRAWAL METHOD: low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): W1555A, W1555CDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon Gac SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 9 OCT 97
WELL No.: MW-15D CLIMATIC CONDITIONS: Overcast, Cool TIME: 0841
REMARKS: Collected MS/MSD SAMPLER: CH/RP/JH

WELL PURGING: _____ STATIC WATER LEVEL: 107.18 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 350 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Drowdown COMMENTS
0925	0	10.84	6.90	23.9	119	336.1	14.03	0
0930	1.75	10.72	7.11	23.0	119	273.3	13.12	0
0935	3.5	10.71	7.25	23.2	119	218.7	12.31	0
0940	5.25	10.71	7.35	23.8	119	179.9	11.81	0
0945	7.0	10.69	7.41	20.4	118	158.8	11.37	0
0950	8.75	10.69	7.45	18.6	118	146.8	10.76	0
0955	10.51	10.69	7.43	16.8	117	142.5	10.25	0
1000	12.25	10.67	7.50	15.4	117	134.5	10.00	0
1005	14	10.66	7.51	13.9	117	130.9	9.58	0
1010	15.75	10.68	7.51	13.3	116	127.5	9.19	0
1015	17.5	10.68	7.51	13.2	116	117.8	8.84	0

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 40 ml; 1 L Amber; 1 L PolySAMPLE ID NUMBER(s): W15DDA (Sample), W15DDL (Filtered Sample)DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

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MWISD

9 OCT 97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Drawdown COMMENTS
1020	19.25	10.68	7.51	12.04	116	107.7	8.41	0
1025	21.0	10.68	7.51	12.2	115	98.2	8.07	0
1030	22.75	10.68	7.52	11.9	115	86.2	7.65	0
1035	24.50	10.68	7.51	12.2	114	73.8	7.23	0
1040	25	10.70	7.51	11.5	114	60.4	6.91	0
1045	26	10.66	7.50	11.9	113	42.2	6.64	0
1050	27.75	10.69	7.49	11.5	112	30.9	6.30	0
1055	29.50	10.68	7.48	10.7	112	28.4	5.95	0
1100	31.25	10.66	7.47	10.5	111	21.8	5.65	0
1105	33	10.71	7.47	10.7	111	10.6	5.37	0
1110	34.75	10.75	7.46	11.3	110	3.4	5.23	0
1115	36.50	10.84	7.45	12.0	110	3.8	5.00	0
1120	38.25	10.77	7.45	10	110	-7.9	4.81	0
1130	41.75	10.72	7.44	10.1	109	-22.9	4.42	0
1140	45.25	10.69	7.44	10.7	109	-42.4	4.37	0
1150	48.75	10.69	7.43	10.4	109	-41.9	4.18	0
1205	50.50	10.74	7.43	9.7	108	-53.8	4.05	0
1210	52.25	10.78	7.41	8.8	108	-71.6	3.62	0
1215	53.00	10.77	7.41	9.75	107	-69.0	3.55	0
1220	54.75	10.81	7.41	8.78	107	-70.2	3.53	0
1225	55.50	10.77	7.41	8.32	107	-75.3	3.47	0
1230	57.25	10.79	7.41	9.21	107	-75.0	3.40	0

Sampled @ 1245

Colorimetric DO = 8 ppm



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 17 Oct 97
WELL No.: M00105 CLIMATIC CONDITIONS: clear, windy, cool TIME: 1000
REMARKS: _____ SAMPLER: CH/AB

WELL PURGING: _____ STATIC WATER LEVEL: 131.93 ft. T.C. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1010	0	8.77	6.68	220	328	-15.1	4.91	Well purged
1020	1.0	9.24	7.27	580	409	-111	1.74	
1030	2.0	9.09	7.49	401	420	-144	1.55	
1040	3.0	9.04	7.57	445	412	-100	2.21	
1050	4.0	9.59	7.57	427	412	-85	2.70	Well purged 100% TOC
1100	5.0	9.96	7.57	380	410	-82.5	2.72	
1110	6.0	10.10	7.57	220	380	-62	2.81	
1120	7.0	9.38	7.48	200	360	-720	2.80	Well purged 100% TOC
1130	8.0	9.80	7.50	220	350	-62	2.90	
1140	9.0	10.09	7.59	170	351	-64.0	3.13	
1150	10.0	10.13	7.75	139	330	-58.5	3.10	
1200	11.0	10.20	7.51	119.0	310	-53.0	3.70	Well purged 100% TOC
2.00	12.00	10.48	7.28	92.5	309	-53.0	3.24	

SAMPLE WITHDRAWAL METHOD: Bladder slow flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EOB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 1 1 L PolySAMPLE ID NUMBER(s): W1001A/W1001BDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: 645 SYSTEMSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

Mobiles

17 Nov 97

LITERS								COMMENTS
TIME	REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	
1220	13.00	10.28	7.76	85.5	310	-53.9	3.29	
1230	14.00	10.35	7.23	76.0	301	-50.4	3.32	
1240	15.00	10.21	7.22	72.0	295	-53.4	3.33	
1250	16.00	10.23	7.20	65.7	290	-51.9	3.30	
1300	17.00	10.28	7.15	63.4	284	-55.3	3.32	
1310	18.00	10.31	7.12	60.5	276	-56.3	3.34	
1320	19.00	10.27	7.15	59.5	270	-54.9	3.35	
1330	20.00	10.29	7.15	62.5	268	-54.7	3.45	DTN 17200 '00
1340	21.0	10.12	7.13	70.5	263	-54.1	3.45	
1350	22.0	10.12	7.17	63.4	265	-47.6	3.37	
1400	23	10.02	7.12	63.4	258	-52.7	3.34	
1410	24	9.99	7.11	63.6	255	-29.0	3.30	
Sample # 1415 W/1655A/W/1655L								
Color, metrol DO = 4 mg/L								
Color, metrol pH:								
VCL (at 2.0) (H ₂ O) = 2								
FOD (Na ₂ SO ₄) = 6								
TDS (H ₂ SO ₄) = 9								
CN (NaOH) = 13								
PRES (NO ₂ -NO ₃) (H ₂ SO ₄) = 2								
METALS (HNO ₃) = 3								
Turbidity prior to collecting metals = 20.0								



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 18 Nov 97				
WELL No.: NW 16D		CLIMATIC CONDITIONS: clear, 38°F		TIME: 1220				
REMARKS:		1st bldg		SAMPLER: CH/AB				
WELL PURGING:		STATIC WATER LEVEL: NA ft		WELL DEPTH: ft				
LENGTH OF SATURATED ZONE:		WATER LEVEL METER INOPERATIVE						
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES =		NA gals.						
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100		ml/min.				
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0730	0	7.41	7.33	219	357	-197	8.73	
0740	1.0	9.21	9.36	21000	337	-352	1.98	100 ml/min
0750	2.0	8.63	9.42	21000	521	-399	0.62	dk brown silty H ₂ O
0800	3.0	8.23	9.43	21000	315	-401	0.73	starting to clear up
0810	4.0	8.25	9.45	NA	310	-398	0.88	toch water not forest - v. slowly turb
0820	5.0	8.42	9.50	NA	303	-396	0.98	ye above
0830	6.0	8.84	9.48	NA	292	-396	1.09	100 ml/min
0840	7.0	9.29	9.77	NA	287	-402	1.19	
0850	8.0	8.87	9.47	NA	286	-413	1.13	
0900	9.0	6.31	9.44	NA	266	-413	1.29	100 ml/min
0910	10.0	8.03	9.46	NA	276	-415	1.41	
0920	11.0	8.67	9.47	NA	279	-428	1.40	
SAMPLE WITHDRAWAL METHOD:								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:						VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl);		
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED:						11 40 ml; 9 1 L Amber; 4 1 L Poly		
SAMPLE ID NUMBER(s):						W16 DDA; W16 DDC		
DECON METHOD:						Liquidnox wash; DI rinse; Methonal Rinse; DI rinse		
PURGE WATER DISPOSED OF IN DRUM NUMBER:						Decon GAC System		
SAMPLES DELIVERED TO:						ITS		
TRANSPORTER:								
DATE:								
TIME:								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								



ENVIRONMENTAL & ENERGY SERVICES

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MW16D

18 Nov 97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0940	13	9.29	9.45	326	273	-420	1.65	
0950	14	9.05	9.44	348	267	-421	1.56	100 ml/min
1000	15	9.36	9.45	352	277	-430	1.49	
1010	16	9.37	9.47	343	279	-438	1.33	
1020	17	9.53	9.45	340	272	-440	1.25	DTW 132.5D
1030	18	9.51	9.44	345	266	-402	1.87	Increase pumping rate
1040	21.25	9.99	9.42	312	262	-431	1.40	325
1050	24.50	10.30	9.39	421	255	-414	1.54	300ml/min
1100	27.50	10.34	9.32	348	226	-354	2.05	
1110	30.50	10.30	9.27	295	214	-305	2.83	
1120	33.50	10.27	9.24	267	209	-266	3.51	DTW 132.5D TOC
1130	36.50	10.06	9.21	198	205	-240	4.04	
1140	39.50	10.55	9.20	205	203	-225	4.36	
1150	42.50	10.58	9.19	198	200	-213	4.66	
1200	45.50	10.31	9.22	190	207	-218	4.81	300ml/min / DTW 132.5D TOC
1210	48.50	10.31	9.23	205	210	-214	4.95	5 TOC
1220	51.50	10.31	9.21	144	202	-198	5.21	
1230	54.5	10.36	9.21	188	202	-190	5.41	
1240	58.5	10.33	9.20	147	190	-179	5.72	
1250	61.5	10.29	9.21	150	197	-177	5.99	DTW 132.5D TOC
1300	64.5	10.23	9.20	130	189	-163	6.28	
1310	67.5	10.27	9.19	131	183	-148	6.50	
1320	70.5	10.19	9.18	121	180	-141	6.60	
1330	73.5	10.22	9.18	123	180	-132	6.91	
1340	76.5	10.21	9.16	120	178	-123	7.09	
1400	79.5	10.14	9.17	145	181	-130	7.02	
1400	82.5	10.01	9.16	125	175	-121	7.49	

Sample MW16D @ 1400

Colorimetric DO = 5 mg/L

Colorimetric pH:

VOC(MTBE(HC₂)): 2EDB(Na₂S₂O₃): 10VOC(H₂SO₄): 2

CN(NaOH): 13

PbO₂/NO₂-NO₃(H₂SO₄): 3METALS(HNO₃): 2

Turb prior to Metals collection: 1/5



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/00/97
WELL No.: NW175 CLIMATIC CONDITIONS: cloudy, 45°F TIME: 0820
REMARKS: Pump collected / TOL collects split 1/2 merge SAMPLER: CA/JH

WELL PURGING: _____ STATIC WATER LEVEL: 123.62 ft. TOC WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0830	5	10.88	5.20	3.57	47	426	12.68	DTW 123.70
0835	0.5	10.71	5.95	2.63	82	417	10.64	100 ml/min
0840	1.0	10.52	6.18	2.43	95	401	9.07	
0845	1.5	10.41	6.63	2.32	99	385	8.97	
0850	2.0	10.37	6.24	2.76	101	324	8.80	
0855	2.5	10.35	6.32	2.94	102	300	8.50	
0900	3.0	10.30	6.35	2.98	104	209	8.50	
0905	3.5	10.59	6.39	3.39	106	135	8.14	
0910	4.0	10.58	6.41	3.41	107	914	8.02	
0915	4.5	10.41	6.43	3.50	109	43.2	7.97	
0920	5.0	10.47	6.44	3.50	109	9.4	7.93	DTW 123.72
0925	5.5	10.60	6.45	3.54	110	-16.2	7.94	100 ml/min

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 2 40 ml; 1 1 L Amber; 1 1 L Poly

SAMPLE ID NUMBER(s): W17553 EQUIP RINSE; W17554/W17555; W17504/
W17502

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

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NW 175

11 Nov 97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0930	6.0	10.69	6.40	3.20	111	-24.5	7.92	
0935	6.5	10.63	6.47	3.28	111	-44.0	7.94	
0940	7.0	10.65	6.47	3.25	111	-51.7	7.96	
0945	7.5	10.65	6.47	3.31	111	-60.9	8.01	
0950	8.0	10.40	6.47	3.40	112	-66.3	8.03	
0955	8.5	11.01	6.45	3.08	112	-73.7	8.02	
1000	9.0	10.90	6.48	3.31	113	-89.9	8.02	
1005	9.5	10.92	6.48	3.29	113	-97.3	8.01	
1010	10.0	10.97	6.49	3.24	113	-101.3	8.00	
1015	10.5	10.90	6.49	3.15	113	-105.6	8.07	

Sampled NW 175 @ 1072

Gravimetric DO = 7.94

Gravimetric pH =

VOC/MTHS (HPL) = 2

EDS (NMS) = 5

TSS (H-20) = 2

METALS (HPL) = 2

CN (HPL) = 10

Pb (HPL) = 2

DO = 7.94



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 5-28-98
WELL No.: MW-17D CLIMATIC CONDITIONS: Sunny/Temp-80°F TIME: 1700
REMARKS: _____ SAMPLER: _____

WELL PURGING: _____ STATIC WATER LEVEL: 123.56 ft. WELL DEPTH: NM ft.
LENGTH OF SATURATED ZONE: NM
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
REMOVAL METHOD: Bladder slow flow PUMPING RATE: 120 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
922	0	14.63	8.72	17.22	0.107	-280.5	4.90	Start 5-29-98
927		13.45	8.72	8.49	0.105	-330.5	1.61	120 ml/min 123.52
932		13.15	8.74	6.24	0.103	-356.8	0.91	" "
937		13.09	8.77	6.30	0.110	-354.0	0.97	" "
942		12.97	8.78	6.34	0.110	-357.0	0.93	" "
947		12.99	8.79	6.39	0.113	-357.5	0.94	" "

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 6 1 L Amber; 1 L Poly

SAMPLE ID NUMBER(S): Sample-WPH4A, Duplicate - WPH6A
Colimetric D.O. - 1 ppm

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS TRANSPORTER: Fedex

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 10/10/97
 WELL NO. MW-185 CLIMATIC CONDITIONS: cloudy, 65°F TIME: 0800
 REMARKS: _____ SAMPLER: TD, JH

WELL PURGING:

STATIC WATER LEVEL: 42.55 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE	TEMP (C)	pH	TURB. (NTU)	COND. (us/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
825	14.97	5.63	3.30	64	141	11.2	150	0	
830	14.15	5.65	3.32	78	33.5	9.88	150	0	
835	13.91	5.67	2.18	85	6.4	9.09	150	0	
840	13.28	5.75	8.98	92	-76.6	7.94	150	0	
845	12.96	5.80	2.19	95	-96.1	7.37	150	0	
850	12.89	5.83	1.80	97	-114	6.77	150	0	
855	12.81	5.87	1.40	100	-115.2	6.14	150	0	
900	12.78	5.92	1.50	102	-92.6	5.58	150	0	
905	12.92	5.94	1.99	104	-95.6	5.57	150	0	

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);

SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L poly

SAMPLE ID NUMBER(S): W1855A, W1855L

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory

TRANSPORTER: _____

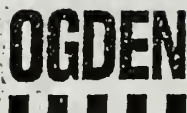
DATE: _____ TIME: _____

DO = 4 ppm

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 21 JAN 98
WELL No.: W18MI CLIMATIC CONDITIONS: clear, windy, 50°F TIME: 1500
REMARKS: _____ SAMPLER: CH/SD/BA

WELL PURGING: _____ STATIC WATER LEVEL: 42.84 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1500	0	9.09	6.99	33.2	45	156	25.4	200ml/min DTW 42.85' TOC
1510	2.0	8.80	6.26	64.5	111	217	24.5	
1520	4.0	8.83	6.23	31.5	113	236	24.79	
1530	6.0	8.75	6.19	18.0	111	256	24.72	200ml/min DTW 42.88' TOC
1540	8.0	8.58	6.16	9.77	109	265	24.32	
1550	10.0	8.60	6.12	6.48	107	273	23.73	
1600	12.0	8.50	6.09	4.81	106	280	22.20	100ml/min
1605	12.5	8.39	6.08	4.20	106	283	22.01	
1610	13.0	8.80	6.08	3.96	105	285	21.62	
1615	13.5	7.54	6.07	7.34	105	288	21.96	END of DAY
0710	14.0	6.22	6.53	2.14	273	157	20.21	100ml/min DTW 42.88'
0720	15.0	6.02	6.21	2.26	152	211	20.15	
0725	15.5	6.20	6.14	12.70	106	231	20.02	

SAMPLE WITHDRAWAL METHOD: Bladder pumpLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(S): ER = W18MIE; SAMPLE = W18MIA; W18MILDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAC SYSTEMSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

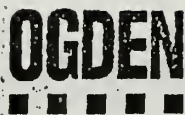
CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

22 JAN 98

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0730	16.0	6.32	4.13	16.7	101	239	20.02	
0740	17.0	6.55	4.10	13.2	98	255	19.57	
0750	18.0	5.80	4.10	—	100	267	19.36	Wipe - see log book
0820	18.0	2.68	4.09	11.4	97	291	19.64	↑ pumping rate 200 ml/min
0830	20.0	6.66	4.12	8.15	96	291	17.96	
0840	22.0	6.49	4.10	4.10	97	297	17.97	100 ml/min DTW 42.86
0850	23.0	6.54	4.09	4.65	97	302	17.27	
0855	23.5	6.67	6.09	4.31	96	304	16.84	
0900	24.0	4.75	6.08	3.62	96	305	16.60	
0905	24.5	4.72	6.08	2.74	96	307	16.32	
0910	25.0	6.79	6.08	2.48	96	308	16.14	
0915	SAMPLE							
Colormetric DO = 8 mg/l								
TURB. PRIOR TO METALS = 3.59 NTU								



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 22 Jan 98

WELL No.: MW18M2 CLIMATIC CONDITIONS: overcast, w. wind, 30°F TIME:

REMARKS: SAMPLER: CH/TT

WELL PURGING: STATIC WATER LEVEL: 42.85 ft WELL DEPTH: ft

LENGTH OF SATURATED ZONE:

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1200	0	8.86	6.19	53.5	60	169	9.79	200 ml/min DTW 42.84
1210	2.0	8.81	6.20	35.6	64	143	8.17	
1220	4.0	8.96	6.18	19.8	66	128	6.83	
1230	6.0	8.87	6.16	10.49	67	126	5.48	
1240	8.0	8.83	6.14	6.27	67	125	4.50	200 ml/min DTW 42.85
1250	10.0	8.48	6.12	4.66	67	123	3.63	100 ml/min
1255	10.5	8.04	6.13	4.16	67	122	3.37	
1300	11.0	7.94	6.12	3.94	67	121	3.08	
1305	11.5	7.96	6.12	3.76	66	120	2.99	
1310	12.0	8.06	6.12	3.32	66	119	2.87	
1315 - Sample								
Colorimetric DO = 10 mg/L TURBIDITY PRIOR METALS = 3.54 NTU								

SAMPLE WITHDRAWAL METHOD: Bladder Pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): ER = W18M2E; SAMPLE = W18M2A, W18M2B

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAC SYSTEM

SAMPLES DELIVERED TO: ITS TRANSPORTER:

DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10 Oct 97

WELL NO. MW18D CLIMATIC CONDITIONS: overcast, slight breeze TIME: 0820
60°F

REMARKS: TRC collects split SAMPLER: HA/JH/RP

WELL PURGING:

STATIC WATER LEVEL: 43.02 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder Slow Flow PUMPING RATE: 250 ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS REMOVED	TEMP °F	pH	COND.	TURBIDITY	DCP COLOR	DD	COMMENTS
0835	0	52.51	7.25	0.119	479	-3095	1.05	
0840	1.25	52.35	7.52	0.118	461	-336.4	0.71	
0845	2.50	52.05	7.56	0.118	452	-3431	0.70	
0850	3.75	52.08	7.63	0.118	460	-348.3	0.67	
0855	5.00	51.59	7.66	0.114	409	-334.4	0.61	
0900	6.25	51.41	7.69	0.113	385	-333.3	0.58	
0910	8.75	51.40	7.71	0.110	315	-349.3	0.58	
0920	11.25	51.33	7.70	0.106	264	-346.3	0.63	
0930	13.75	10.74 C	7.70	105.45 µm 221	-320.7	0.67		
0940	16.25	10.77	7.68	99.0	179	-33.2	0.76	
0950	18.75	10.65	7.67	97.0	167	-326.1	0.80	
1000	21.25	10.72	7.67	96.0	157	-330.2	0.87	

SAMPLE WITHDRAWAL METHOD: Bladder Slow Flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: VOCs - HCL (3); EOB - Na₂S₂O₃ (3); MRE-HCL (3);

TOC - H₂O₂ (2); SDOC - NONE (2); HCL - NONE (2); PCAP/PEST (None (2)); ERP - NONE (2); ALK - None (2);
CN - NaOH (1); NO₂/NO₃ - H₂SO₄ (1); T-Metals + HNO₃ (1); D-METALS - HNO₃ (1)

SAMPLE ID NUMBER(S): W18DDA - W18DLA

DECON METHOD: Neenox Wash, DE RINSE; METH RINSE; DE RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10 OCT 97

WELL NO. MW18D CLIMATIC CONDITIONS: overcast, breezy TIME: 0820
60°F

REMARKS: Pump Settings - MAX Pressure 20 sec drawdown SAMPLER: CH/EP
15 sec recharge

WELL PURGING: STATIC WATER LEVEL: 43.02 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: BLANDFILL SLOW FLOW PUMPING RATE: 250 ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	ORP COLOR	DO	COMMENTS
1020	23.75	10.76	7.67	94.00	147	-311.2	1.04	draw down
1030	25.25	10.82	7.67	93.2	158	-327.5	1.11	2
1040	28.75	10.75	7.67	92.00	130	-325.6	1.14	2
1050	31.25	10.76	7.67	91.00	139	-320.6	1.21	2
1100	33.75	10.76	7.68	91.00	133	-314.1	1.29	2
1130	41.25	11.01	7.68	90.00	136	-311.1	1.44	2
1200	48.75	10.94	7.68	89.00	127.0	-294.6	1.57	2
1230	56.25	11.03	7.67	88.00	121.9	-287.1	1.84	2
1300	—	10.98	7.68	87.00	121.2	-278.4	1.83	

SAMPLE WITHDRAWAL METHOD: DISCONTINUED PURGING DUE TO HIGH TURBIDITY

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: NO SAMPLE COLLECTED

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER:	3-3100-0103	LOCATION:	MMR	DATE:	22 OCT 97			
WELL No.:	W18D	CLIMATIC CONDITIONS:	clear; 40°F	TIME:	0750			
REMARKS:	Split sample w/ TSC		SAMPLER: CH/KD					
WELL PURGING:	STATIC WATER LEVEL: 43.11		ft.		WELL DEPTH: _____ ft.			
LENGTH OF SATURATED ZONE: _____								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = <u>NA</u> gals.								
REMOVAL METHOD: Bladder slow flow PUMPING RATE: 200 ml/min.								
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0805	1	8.76	7.10	640	122.0	-165	4.65	
0810	2	8.81	7.23	650	119.0	-226.2	3.01	
0815	3	8.83	7.28	630	116.0	-254.5	2.18	DW 43.11 Ft
0825	5	8.89	7.41	485	113.0	-311.4	1.35	Flow Rate
0835	7	9.30	7.50	413	113.0	-326.9	1.21	200 ml/min
0845	9	9.38	7.53	397	112.0	-319.5	1.23	
0855	11	9.45	7.55	366	111.0	-319.5	1.45	
0905	13	9.51	7.58	354	110.0	-309.7	1.40	
0915	15	9.59	7.59	303	109.0	-300.6	2.07	
0925	17	9.63	7.61	285	109.0	-295.2	2.26	
0935	19	9.67	7.62	290	108.0	-286.7	1.92	Flow Rate
0945	21	9.85	7.63	277	108	-279.0	2.73	200 ml/min
SAMPLE WITHDRAWAL METHOD: <u>second attempt after no development</u>								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>								
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: <u>11 40 ml; 9 1 L Amber; 4 1 L Poly</u>								
SAMPLE ID NUMBER(s): <u>W18ADA & W18DDL</u>								
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>								
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>Decon GAC System</u>								
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____								
DATE: _____ TIME: _____								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² *h								
Saturated Filter Pack = 0.041[(d ₁) ² -(d ₂) ²]h(0.3)								

Flow: Titrim Cell - Turbidity 123 NTU's & Below Sampling

SAMPLE COLLECT @ 1615

Flow RATE DECREASED TO 100 ml/min for VIO, EPB, MIBZ, & PC. 1/2 RATE.
BACK UP TO 400 ml/min for all other analytes

DO Reading from Colormetric = 4 mg/L

Turb from to metal collection 118 NTU's

GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 5 MAR 98
 WELL No.: MW195 CLIMATIC CONDITIONS: partly cloudy, breezy TIME: _____
 REMARKS: split ER SAMPLE w/ TRC SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 41.93 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0905	0	8.11	5.56	3.64	39	131	3.87	100 ml/min 41.90' Trc
0915	1.0	8.87	5.77	1.93	63	46.2	3.44	
0925	2.0	9.28	5.85	1.54	66	32.6	3.58	100 ml/min
0930	2.5	9.07	5.85	1.05	67	31.1	3.56	
0935	3.0	8.91	5.84	0.97	67	38.9	3.43	
0940	3.5	8.91	5.83	0.75	68	41.8	3.39	
0945	4.0	8.88	5.85	0.94	68	42.9	3.46	
0950	4.5	8.86	5.86	0.87	68	40.5	3.42	100 ml/min 41.91' Trc
0955	5.0	8.89	5.87	0.73	68	38.6	3.39	
1005	- Collet sample							
1040	- Colorimetric DO = 6 mg/l							
1255	- TURB. PRIOR TO METALS = 1.12 NTU							

SAMPLE WITHDRAWAL METHOD: Bladder Pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₅); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): ER - W1955E; SAMPLE - W1955A/W1955C

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAS SYSTEM

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

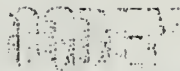
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 4 MAR 98
 WELL No.: NW19D CLIMATIC CONDITIONS: hazy, 1+ breeze TIME: 0925
 REMARKS: 40°F SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 42.24 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0935	0	8.91	4.55	39.9	152	0.1	16.40	42.25'; 200 gal/min
0945	2.0	9.45	7.34	95.3	161	-49.5	16.10	
0955	4.0	9.61	7.64	83.2	162	-60.3	16.13	42.24'; 200 gal/min
1005	6.0	9.77	7.74	75.4	141	-62.3	16.53	
1015	8.0	9.72	7.82	66.0	160	-70.7	15.76	
1025	10.0	9.92	7.87	70.3	154	-73.2	15.34	
1035	12.0	10.00	7.92	67.4	155	-74.5	14.67	
1045	14.0	10.11	7.98	63.9	155	-75.4	14.48	
1055	16.0	10.21	7.99	54.4	153	-77.4	14.59	42.24'; 200 gal/min
1105	18.0	10.67	8.00	51.5	151	-77.1	13.77	
1115	20	10.25	8.00	49.2	149	-75.7	13.91	
1125	22	10.40	8.00	49.3	147	-74.6	13.05	
1135	24	10.42	7.99	45.9	147	-73.9	13.01	

SAMPLE WITHDRAWAL METHOD: Bladder Pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (Na₂S₂O₃), MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 1 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): ER - WIFIDDE; Sample ID = W19DDL/W19DDA

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon Gas System

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 7 Nov 97				
WELL No.: MLOZOS		CLIMATIC CONDITIONS: cloudy, windy		TIME: 5:00 P				
REMARKS: Colorimetric PH: VOC/MTBE (HCl)=2; EDB (Na ₂ S ₂ O ₃)=6; SAMPLER: CH/RD TOC (H ₂ SO ₄)=2; METALS (HNO ₃)=2; CN (NaOH)= ; PHOS/NO ₃ /NO ₂ (H ₂ SO ₄)=2								
WELL PURGING:		STATIC WATER LEVEL: 98.32 ft		TOC WELL DEPTH: ft				
LENGTH OF SATURATED ZONE:								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.								
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100		ml/min.				
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	PH	TURBIDITY	COND.	ORP	DO	COMMENTS
0810	2	10.06	5.51	1.79	54	297	11.11	100 ml/min
0815	0.5	10.62	5.58	1.49	58	224	10.89	
0820	1.0	10.61	5.63	0.93	65	178	10.75	DTW 98.35
0825	1.5	10.59	5.66	0.90	67	159	10.65	
0830	2.0	10.57	5.70	0.86	70	160	10.50	100 ml/min
0835	2.5	10.55	5.72	0.89	71	161	10.42	
0840	3.0	10.55	5.73	0.89	72	156	10.39	
0845	3.5	10.54	5.74	0.90	72	152	10.41	
0850	4.0	10.52	5.75	0.89	72	149	10.36	DTW 98.33
0855	4.5	10.55	5.76	0.52	73	144	10.27	
0900	5.0	10.57	5.76	0.64	73	139	10.29	
Collect sample @ 0900								
Colorimetric DO = 9.24/L								
SAMPLE WITHDRAWAL METHOD: Bladder slow flow								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:						VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl);		
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED:						40 ml; 1 L Amber; 1 L Poly		
SAMPLE ID NUMBER(s):						EQUIP RINSE - WZ0552, WZ0554, WZ0556		
DECON METHOD:						Liquidnox wash; DI rinse; Methonal Rinse; DI rinse		
PURGE WATER DISPOSED OF IN DRUM NUMBER:						Decon GAC System		
SAMPLES DELIVERED TO: ITS						TRANSPORTER:		
DATE:						TIME:		
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d1) ² -(d2) ²]h(0.3)								



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>5-27-98</u>						
WELL No.: <u>MW-2HS^{FR}205</u>		CLIMATIC CONDITIONS: <u>Sunny / Temp 70°F</u>		TIME: <u>1105</u>						
REMARKS: _____		SAMPLER: <u>BG/JR/SH</u>								
WELL PURGING: _____		STATIC WATER LEVEL: <u>96.21</u> ft.		WELL DEPTH: <u>NM</u> ft.						
LENGTH OF SATURATED ZONE: _____		<u>NM</u>								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____		<u>NA</u> gals.								
REMOVAL METHOD: <u>Bladder slow flow</u>		PUMPING RATE: <u>450</u>		ml/min.						
WELL PURGE DATA:										
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	DTW	COMMENTS	Pumping Rate
1311	0	10.87	5.62	1.85	0.054	174.7	9.29	96.21		450
1318		10.77	5.58	2.10	0.054	192.4	10.19	96.22	"	
1323		10.74	5.56	2.00	0.055	203.3	10.50	96.22	"	
1328		10.63	5.54	2.02	0.055	215.4	10.58	96.22	"	
1333		10.60	5.51	1.45	0.054	221.7	10.69	96.22	"	
1338		10.54	5.50	1.13	0.054	227.1	10.79	96.22	"	
1343		10.49	5.49	0.09	0.054	230.9	10.83	96.22	"	
SAMPLE WITHDRAWAL METHOD: <u>Bladder</u>										
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); <u>JR</u></u>										
<u>TR</u> TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃) <u>JR</u>										
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>40 ml; 3 1 L Amber; 1 L Poly</u>										
<u>Colimetric D.O. - 10 ppm</u>										
SAMPLE ID NUMBER(s): <u>WPH03A and WPH05A (Duplicate)</u>										
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>										
PURGE WATER DISPOSED OF IN DRUM NUMBER: _____										
SAMPLES DELIVERED TO: <u>Fed Ex</u> TRANSPORTER: <u>Fed Ex</u>										
DATE: _____ TIME: _____										
CASING CAPACITY (gallons/linear foot) 2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87 Well Screen Volume = 0.041(d) ² h Saturated Filter Pack = 0.041[(d ₁) ² -(d ₂) ²]h(0.3)										



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 23 OCT 97
WELL No.: MWZ15 CLIMATIC CONDITIONS: clear, windy TIME: 1230
REMARKS: SPLIT SCREEN W/TAC +5°F SAMPLER: CH/KO

WELL PURGING: _____ STATIC WATER LEVEL: 170.84 ft. WELL DEPTH: _____ ft.
LENGTH OF SATURATED ZONE: _____
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.
REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
11:00	0	10.94	6.48	116	32.54	274.8	5.02	
11:10	1	10.69	6.90	144	32.55	255.1	3.18	
11:20	2	10.94	6.99	128	38.62	246.9	2.75	
11:30	3	11.03	7.00	108	39.66	238.7	2.93	
11:40	4	10.96	7.03	91	43.82	205.6	2.98	
11:50	5	10.71	7.04	84	46.36	168.5	3.02	
12:00	6	10.83	7.05	78	48.06	135.4	3.14	
12:10	7	10.73	7.04	72	49.16	105.2	3.25	
12:20	8	10.70	7.09	71	50.68	85.1	3.39	
12:30	9	10.67	7.03	68	51.78	66.4	3.59	
12:40	10.25	10.51	6.93	68	51.84	195.5	7.31	24 OCT 97 - restart
12:40	12.75	10.75	7.04	69	51.56	142.8	4.03	Flow Rate 750 L/min

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOWLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): _____

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



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24 OCT 97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0750	15.25	10.24	7.02	64	0.162	110.4	4.24	Flow Rate
0800	17.25	10.26	7.00	60	0.171	105.2	4.75	250 ml/min
0810	20.25	10.22	6.98	57	0.180	39.7	6.40	"
0820	22.75	10.30	6.96	54	0.186	32.1	6.01	"
0830	25.25	10.34	6.95	52	0.187	30.2	6.25	Flow Rate
0840	26.25	10.33	6.95	52	0.189	30.0	6.30	100 ml/min
0850	27.25	10.43	6.95	49	0.191	26.0	6.55	"
0900	28.25	10.59	6.99	44	0.191	13.8	6.28	"
0910	29.25	10.77	6.97	44	0.193	18.3	6.67	"
0920	30.25	10.88	6.97	43	0.195	24.0	7.02	"
0930	31.25	10.86	6.96	43	0.195	23.8	7.10	"
0940	32.25	11.00	6.94	41	0.195	25.4	7.04	"
0950	33.25	11.15	6.95	38	0.196	25.4	6.99	"
1000	34.25	11.21	6.94	37	0.197	27.6	7.28	" DFW
1010	35.25	11.30	6.94	36	0.197	28.1	7.07	" 170.85
1020	36.25	11.30	6.93	35	0.197	28.3	7.49	"
1030	37.25	11.23	6.93	34	0.197	28.7	7.53	"
1040	38.25	11.21	6.93	34	0.197	26.4	7.18	"
1050	39.25	11.23	6.92	33	0.198	29.5	7.50	"
1100	40.25	11.35	6.93	34	0.198	25.6	7.00	"
1110	41.25	11.47	6.92	32	0.198	25.2	7.34	"
1120	42.25	11.79	6.90	32	0.199	28.0	7.26	"
1140	44.25	12.03	6.94	32	0.201	27.48	7.43	"
1150	45.25	11.73	6.93	30	0.199	25.7	7.30	"

Final Turbidity without Flow Control is 3.1 NTU's

Collect sample WZ-SSA 10/21/97 @ 1700

DO is 7 mg/L

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 14 OCT 97

WELL NO. MWZID CLIMATIC CONDITIONS: partly cloudy, 60°F TIME: 1130
light breeze

REMARKS: Collect MS/MSD & SELT w/ TRC SAMPLER: CA/RP

Pump Settings - Max Pressure Discharge 215.0 psi Recharge 13.00 psi

WELL PURGING: STATIC WATER LEVEL: 170.46 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder Slow Flow PUMPING RATE: 350 ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS L REMOVED	TEMP	pH	COND.	TURBIDITY	ORP COLOR	DO	COMMENTS
1145	5	12.05	6.47	74.00	99.8	313	7.83	
1150	5.5 6.75	12.04	6.54	72.00	116.0	256.3	6.39	
1155	5.5	11.96	6.58	71.00	123.5	161.0	5.91	
1200	5.25	11.90	6.60	71.00	121.5	93.0	5.75	drawdown
1205	7.00	11.95	6.63	71.20	112.9	34.0	5.63	
1210	8.75	11.96	6.65	71.00	103.8	9.8	5.57	
1215	10.50	11.77	6.66	70.00	104.3	-2.7	5.52	
1220	12.25	11.99	6.67	71.00	101.8	-7.2	5.47	
1225	14.00	12.02	6.69	71.0	99.8	-7.6	5.49	
1230	15.75	11.80	6.70	71.0	96.5	-13.4	5.48	
1235	17.50	11.67	6.72	71.0	91.5	-13.4	5.48	
1240	19.25	11.52	6.74	71.0	103.4	-13.4	5.43	

SAMPLE WITHDRAWAL METHOD: Bladder Slow Flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-HCl(8); MTBE-HCl(8); EDB-NH₂SO₃(8);
TOC-H₂SO₄(6); SUOC-NONE(6); EXP-NONE(6); HEXB-NONE(6); PEST/PCB-NONE(6);

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: ML-NONE(3); CN-NH₄OH(3); NH₂NO₂-H₂SO₄(3);
T-METALS-HNO₃(3); D-METALS-HNO₃(3)

SAMPLE ID NUMBER(s): MWZIDDA

DECON METHOD: ACWONX WASH DI RINSE, METH RINSE, DI RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 14 OCT 97
 WELL NO. 14WZ10 CLIMATIC CONDITIONS: mostly sunny, mazy, 65° TIME: 11:30
 REMARKS: SEE PAGE 1 SAMPLER: CA/RP

WELL PURGING: STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.
 REMOVAL METHOD: _____ PUMPING RATE: 350/250 ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	ORP COLOR	DO	COMMENTS
1245	21.00	11.68	6.76	71.00	97.3	-10.0	5.02	
1255	24.50	11.72	6.79	71.00	100.0	-10.8	5.15	reduced pump rate to 250 ml
1305	27.00	11.73	6.81	71.00	104.5	-27.5	5.27	PTW 170 45
1315	29.50	11.91	6.83	71.00	95.0	-21.4	5.50	
1325	31.00	11.94	6.82	71.00	91.8	-12.1	5.75	
1335	33.50	11.85	6.83	71.00	93.2	-8.1	5.70	
1345	36.00	11.72	6.83	71.00	90.2	-4.2	5.73	
1355	38.50	11.74	6.84	71.00	90.2	-5.8	5.78	
1405	41.00	11.63	6.84	71.00	89.7	-1.2	5.91	
1415	43.50	11.55	6.86	71.00	90.0	-6.3	5.77	
1425	46.00	11.47	6.85	70.00	85.3	-3.0	5.51	
1435	48.50	11.38	6.87	71.00	90.2	-3.3	5.81	
1445	51.00	11.34	6.86	70.00	88.3	-1.0	5.67	

SAMPLE WITHDRAWAL METHOD: SEE PAGE 1

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: _____

SAMPLE ID NUMBER(s): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 14 OCT 97

WELL NO. MOZID CLIMATIC CONDITIONS: _____ TIME: 1130

REMARKS: SEE PAGE 1 SAMPLER: CA/RP
sanded well @ 1530

WELL PURGING: STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.
 REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	CRP COLOR	DC	COMMENTS
1450	52.85	11.29	6.87	70.00	89.2	-2.8	5.82	
1500	54.78	11.24	6.87	70.00	89.3	1.1	5.58	
1505	56.00	11.29	6.87	70.00	89.9	-3.0	5.59	
1515	58.50	11.48	6.82	70.00	84.5	0.0	5.46	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/24/97
WELL No.: MW-225 CLIMATIC CONDITIONS: Overcast, 40° TIME: 0830
REMARKS: _____ SAMPLER: TD, KD

WELL PURGING: _____ STATIC WATER LEVEL: 175.77 ft. WELL DEPTH: 180.5 ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 50 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0830	0.5	8.55	6.69	18.6	12	237.3	10.80	Static: 175.77
0850	1.5	9.03	5.75	12.80	75	293.3	15.63	Pump Rate: 50 ml/min
0910	2.5	8.96	5.65	3.84	108	301.2	14.63	"
0920	3.0	8.71	5.63	3.99	114	303.0	14.00	"
0925	3.25	8.77	5.63	3.63	117	302.1	13.82	"
0930	3.50	8.82	5.62	3.14	119	303.5	13.66	"
0935	3.75	8.88	5.62	2.98	120	303.6	13.56	DTW 175.77

0940 Sample time

Colorimetric pH Readings: VOCs: 2, EDB: 6, TOC: 2, Metals: 2, Cyanide: 11,
Phosphorus: 2, Unpreserved CoColorimetric DO Reading: 12.2 ppmTurbidity before Metals Sample: 1.04 NTU Turbidity without Flow Cell: 2.42 NTUSAMPLE WITHDRAWAL METHOD: Low Flow Bladder, Sampling Flow rate is 50 ml/min.LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (Na₂S₂O₃), MTBE (HCl),
TOC (H₂SO₄), SVOC (None), EXP (None), Herb (None), PCB/Pest (None), Alk (None), CN (NaOH), NO₂/NO₃ (H₂SO₄), Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(S): W22SSA+DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

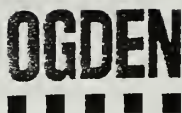
DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



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GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/27/97
WELL No.: HW23.5 CLIMATIC CONDITIONS: 55°F RAIN OVERCAST TIME: 1000
REMARKS: SPLIT SAMPLE W/TRC SAMPLER: CCH & KD

WELL PURGING: _____ STATIC WATER LEVEL: 125.96 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 150 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	us/cm COND.	ORP	DO	COMMENTS
1005	0	12.20	6.860	125	0.174	236.1	11.58	
1025	3	11.98	6.30	173	0.123	252.7	13.04	
1035	4.5	12.04	6.25	131	0.119	259.8	13.18	DTW
1045	6	11.96	6.19	98	0.113	264.7	13.70	125.85 FT
1055	7.5	11.94	6.15	99	0.111	268.1	13.83	
1105	9.0	12.15	6.13	77.8	0.110	271.6	13.97	
1115	10.5	12.24	6.14	75.3	0.110	274.1	14.40	
1125	12.0	12.23	6.13	64.1	0.110	276.7	14.23	
1135	13.5	12.29	6.13	60.8	0.107	279.4	14.26	DTW 125.87
1145	15.0	12.27	6.11	53.0	0.109	282.2	14.35	
1155	16.5	12.20	6.09	54.5	0.107	285.2	14.44	
1205	18.0	12.24	6.14	39.5	0.106	287.1	14.47	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 1A 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): _____

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1215	19.5	12.21	6.07	35.5	0.104	290.2	14.66	DTW 125.87
1225	21	12.14	6.07	44.5	0.104	292.2	14.68	
1235	22.5	12.12	6.08	40	0.105	294.2	14.70	
1250	24	12.22	6.07	35	0.104	296.8	14.70	
1300	25.5	11.95	6.08	30	0.104	298.1	14.71	
1310	27	11.79	6.07	29	0.103	301.2	14.74	
1320	28.5	11.78	6.05	21	0.101	301.5	14.75	
1330	30	11.87	6.05	30	0.102	301.8	14.72	
1340	31.5	11.91	6.06	21.7	0.103	301.8	14.69	
1350	33	11.88	6.05	31	0.102	303.9	14.71	

Turbidity W/inst Flow Cell is 17.2 NTU's (14:00)

Colorimeter DO is 8 ppm (1432)

Turbidity PRIOR TO METALS COLLECTION = 17.9 NTU's



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GROUND-WATER SAMPLING LOG

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MW-23M1

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/7/97
WELL No.: MW-23M CLIMATIC CONDITIONS: Overcast TIME: 0845
REMARKS: SAMPLER: TD, RP

WELL PURGING: STATIC WATER LEVEL: 126.12 ft WELL DEPTH: ft
LENGTH OF SATURATED ZONE: ft
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
REMOVAL METHOD: Bladder slow flow PUMPING RATE: 350 ml/min.

WELL PURGE DATA:

TIME	Gallons REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Draw Down	Pumping Rate COMMENTS
0815	0.8	12.15	7.21	6.45	52	-232.6	7.76	0.0	0.086 PM
0820	1.2	11.90	7.15	5.96	53	-243.2	7.36	0.0	0.085
0825	1.6	11.56	7.26	5.70	51	-257.4	7.41	0.0	0.088
0830	2.0	11.11	7.20	4.80	56	-266.3	7.33	0.0	0.08
0835	2.4	11.17	7.14	4.75	50	-272.2	7.41	0.0	0.085
0840	2.8	11.23	7.09	4.80	49	-293.8	7.48	0.0	0.085
0845	3.2	11.12	7.18	3.75	47	-307.9	7.46	0.0	0.08
Sampled @ 0845									

SAMPLE WITHDRAWAL METHOD: low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): W23M1A (Sample), W23M1C (Filtered Sample)

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER:

DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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MW-23M2

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/11/97
WELL No.: MW2352 CLIMATIC CONDITIONS: _____ TIME: 1015
REMARKS: _____ SAMPLER: _____

WELL PURGING: _____ STATIC WATER LEVEL: 126.41 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 200 ml/min.

WELL PURGE DATA:

Start pumping 930 → compression stalls repeatedly → restart pump @ 900 L/min
REMOVED GAL
TIME REMOVED GAL TEMP pH TURBIDITY COND. ORP DO RATE COMMENTS Draw down

915	~1	10.31	6.20	2.34	77.0	-65	10.57	0.2		
920		10.22	6.16	1.79	73.0	-51	10.78	0.2		
925		10.16	6.12	1.58	72.0	-39	10.65			
930		10.11	6.10	1.42	71	-31	10.80			
935	~2	10.10	6.10	1.39	70	-29	10.20			
940		10.09	6.07	1.38	70	-13	10.10	0.2		
945		10.11	6.05	1.90	69.0	0.9	9.82			
950		10.09	6.05	1.85	69	7.7	9.79			
955	~3	10.10	6.03	1.80	69	1.0	9.75			
1000		10.07	6.02	2.0	69	10	9.69			
1005		10.05	6.02	1.83	68	13.4	9.68			
1010		10.05	6.02	1.76	68	17.8	9.71	0.2		
1015	SAMPLE: DO = 6PPM									

SAMPLE WITHDRAWAL METHOD: low flow bladder pumpLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 40 ml; 1 L Amber; 1 L PolySAMPLE ID NUMBER(s): W23M2A MS/MSD pH Readings

VOCs, MTBE = 2

EDB = 6

TOC = 2.

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse Unpreserved = 6

Cyanide = 6

Phosphorus = 3

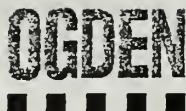
PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC systemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 12 Nov 97
WELL No.: MW 23 SI (M3) CLIMATIC CONDITIONS: scattered clouds TIME: 1550
REMARKS: Duplicate collected SAMPLER: CH/ED

WELL PURGING: _____ STATIC WATER LEVEL: 126.50 ft. WELL DEPTH: _____ ft.
LENGTH OF SATURATED ZONE: _____
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
REMOVAL METHOD: Bladder slow flow PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1500	0	9.61	6.41	19.53	85	342	13.06	150.0 l/min
1605	0.75	10.14	6.11	32.4	84	312	12.90	
1610	1.50	10.13	6.00	52.5	87	132	12.39	DTW 126.50
1615	2.25	9.99	5.96	55.8	87	104	11.95	Start Down For Day
0645	3.00	9.13	5.69	35.6	83	344	15.41	Begin pumping @
0655	4.00	8.96	5.82	27.8	78	46	16.16	100 ml/min.
0705	5.00	8.67	5.75	25.2	75	55	16.15	
0715	6.00	9.09	5.80	15.6	76	47	16.10	DTW 126.50 @ 100 ml/min.
0725	7.00	9.30	5.77	11.6	76	52	15.92	
0735	8.00	9.33	5.78	9.49	76	58	16.32	
0740	8.50	9.32	5.78	8.31	76	59	15.47	
0745	9.00	9.00	5.79	7.33	76	64	15.96	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 2 40 ml; 1 L Amber; 1 L PolySAMPLE ID NUMBER(s): W23M3A and W23M3DDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

MW23M3, 11/13/97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0750	9.50	9.06	5.77	6.66	75	64	15.86	
0755	10.00	9.52	5.77	5.38	76	66	15.98	
0800	10.50	8.82	5.80	5.22	76	64	16.34	
0805	11.00	9.56	5.82	N/A	76	217	17.09	Control box frozen, Turbidity Not Available
0830	11.50	9.29	5.92	6.44	76	132	16.86	
0835	12.00	9.24	5.86	4.93	76	131	16.57	
0840	12.50	9.40	5.84	4.57	76	132	16.32	
0845	13.00	9.59	5.82	4.13	76	130	16.21	
0850	13.50	9.76	5.82	3.54	77	135	16.14	

Collect samples 0855

TURB PRIOR TO METALS = 2.32 NTU

Colorimetric PH:

HCl/MTBE (HCl) = 2

EDB (Na₂S₂O₃) = 1TIC (H₂SO₄) = 2METAL (H₂SO₄) = 3

CN (NaOH) = 10

PHOS/NO₂-NO₃ (H₂SO₄) = 3

Colorimetric DO = 10 mg/L



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/28/97WELL No.: MW23D CLIMATIC CONDITIONS: CLEAR 55°F TIME: 8:15REMARKS: MS-MSD COLLECTED SAMPLER: CCH & KDWELL PURGING: STATIC WATER LEVEL: 126.20 ft. WELL DEPTH: ft.LENGTH OF SATURATED ZONE: VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
835	0	10.86	6.65	15.8	0.045	147.5	12.57	
840	0.5	10.96	6.81	122.7	0.069	56.7	6.88	
850	1.5	10.62	7.04	173.1	0.085	153.1	2.06	DTW 176.72' TO
900	2.5	10.62	7.14	233.0	0.084	207.6	1.18	Flow Rate
910	4.0	10.82	7.20	155.5	0.085	228.3	0.92	150 ml/min
920	5.5	10.91	7.22	147.2	0.086	228.8	0.87	Flow Rate
930	9.0	10.40	7.21	126.7	0.082	214.6	1.28	350 ml/min
940	12.5	10.46	7.16	104.8	0.081	191.9	1.73	DTW 176.20' TO
950	16.0	10.47	7.11	86.6	0.079	164.5	2.44	
1000	19.5	10.15	7.06	70.1	0.078	133.7	3.17	
1010	23.0	10.22	7.02	61.3	0.075	101.5	3.71	
1020	26.5	10.26	6.99	57.2	0.074	86.3	3.91	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pumpLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 33 40 ml; 27 1 L Amber; 12 1 L PolySAMPLE ID NUMBER(s): W23DDA & W23DDL & W23DDEDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1030	30	10.18	6.98	8.2	0.074	-74.4	4.04	
1040	33.5	10.25	6.96	55.7	0.073	-60.6	4.12	
1050	37	10.25	6.95	48.1	0.073	-50.5	4.26	
1100	40.5	10.20	6.94	45.5	0.073	-41.0	4.26	
1110	44.0	10.23	6.94	43.1	0.072	-32.0	4.33	DROPPED Pump. rate 150 ml/min.
1120	45.5	10.48	6.94	44.4	0.073	-33.0	4.29	
1130	47.0	10.84	6.94	44.4	0.073	-28.4	4.31	
1140	48.5	10.93	6.94	46.2	0.073	-25.8	4.34	
1150	50	10.77	6.95	51.3	0.073	-28.6	4.15	INCREASED RATE TO 350 ml/min.
1200	53.5	10.34	6.96	53.3	0.073	-46.0	3.97	
1220	44.0 60.5	10.12	6.95	45.2	0.073	-43.7	3.87	
1230	64	10.38	6.94	41.0	0.073	-33.0	4.03	
1240	67.5	10.28	6.92	37.2	0.072	-18.3	4.26	
1250	71	10.24	6.92	37.6	0.072	-12.4	4.26	
1300	74.5	10.22	6.91	35.5	0.071	-1.9	4.40	
1310	78	10.19	6.90	34.2	0.071	5.1	4.41	
1320	81.5	10.13	6.90	35.4	0.071	4.9	4.42	
1330	85	10.18	6.91	35.4	0.071	8.9	4.40	

Colorimetric DO = 5 mg/L
Sample @ 1340

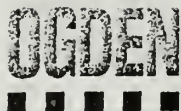
pH Readings via Payer's Color Test

Phys./NO₂-NO₃ = 1

C.N = 8

Total Metals = 2

Diss. Metals = 2



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/13/97
WELL No.: MW-24 CLIMATIC CONDITIONS: Sunny TIME: 1530
REMARKS: MS/MSD collected SAMPLER: TD.CH

WELL PURGING: _____ STATIC WATER LEVEL: 9.97 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: See below ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1535	0.50	10.08	4.91	1.48 NTU	52	457	10.28	Flow rate: 100 ml./min.
1540	1.00	10.06	4.72	1.85	65	454	10.03	DTW 9.97'
1545	1.50	10.05	4.69	1.30	70	452	9.88	
1550	2.00	10.09	4.66	1.68	74	454	9.80	
1555	2.50	10.28	4.64	1.62	76	462	9.69	
1600	3.00	10.24	4.63	1.48	77	470	9.53	DTW 9.94'
1605	3.50	10.31	4.63	1.34	77	476	9.25	
1610	4.00	10.37	4.63	1.26	77	481	9.06	Stop Pumping
0710	4.50	9.10	4.72	0.44	89	387	12.29	Begin pumping 11/14/97
0715	5.00	9.28	4.69	1.08	87	392	12.08	Flow @ 100 ml./min.
0720	5.50	9.56	4.70	0.83	87	397	12.40	DTW 9.97'
0725	6.00	9.72	4.72	0.89	87	401	12.40	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 3 40 ml; 1 1 L Amber; 1 1 L PolySAMPLE ID NUMBER(s): W24SSADECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

MW-24, 11/14/97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0730	6.50	9.74	4.68	0.54	87	413	12.27	
0735	7.00	9.64	4.65	0.35	86	421	12.09	
0740	7.50	9.57	4.64	0.32	86	425	11.93	
0745	8.00	9.43	4.63	0.34	85	428	11.87	Flow rate @ 100 ml/min
0750	8.50	9.30	4.61	0.30	85	431	11.79	
Colorimetric pH Readings:				Colorimetric D.O.: 3				
MTBE/VOCs: 2								
TOC: 2								
EDB: 6								
Metals: 3								
Cyanide: 12								
Phosphorus: 2								

GROUND-WATER SAMPLING LOG

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/16/97
 WELL No.: MW-25 CLIMATIC CONDITIONS: overcast, 50's TIME: 0745
 REMARKS: Split Sample with TRC Windy SAMPLER: CH/RP/KD

WELL PURGING: _____ STATIC WATER LEVEL: 109.63 ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: Bladder slow flow PUMPING RATE: 200 ml/min.

WELL PURGE DATA:								Pumping Rate	COMMENTS
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO		
0810	0	10.44	5.58	0.95	35	235.7	11.46	200 ml/min	
0815	1.0	10.43	5.56	0.63	35	223.5	11.37	"	
0820	2.0	10.39	5.55	0.42	35	219.8	11.45	"	
0825	3.0	10.41	5.54	0.50	35	216.5	11.37	"	
0830	4.0	10.42	5.54	0.35	35	215.0	11.41	"	
0835	5.0	10.41	5.53	0.29	35	214.3	11.44	"	
0840	6.0	10.42	5.53	0.26	35	216.3	11.36	"	
0845	7.0	10.42	5.52	0.35	35	218.3	11.42	"	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump
 LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)
 NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly
Colimetric DO. = 8 mg/L
 SAMPLE ID NUMBER(s): W25 SSA / W25 SSL
 DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse
 PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System
 SAMPLES DELIVERED TO: ITS TRANSPORTER: _____
 DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)
 2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87
 Well Screen Volume = 0.041(d)²h
 Saturated Filter Pack = 0.041[(d1)² - (d2)²]h(0.3)

PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>3 FEB 98</u>	
WELL No.: <u>MW-26</u>		CLIMATIC CONDITIONS: <u>cloudy, 45°F</u>		TIME: <u>1505</u>	
REMARKS: <u>LT probe</u>		SAMPLER: <u>CH/SO</u>			

WELL PURGING:	STATIC WATER LEVEL: <u>132.35</u> ft.	WELL DEPTH: _____ ft.
LENGTH OF SATURATED ZONE: _____		
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = <u>NA</u> gals.		
REMOVAL METHOD: <u>Bladder slow flow</u>	PUMPING RATE: _____ ml/min.	

WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1345	2	7.81	5.80	0.91	17	276	13.89	200.2/min 132.35
1555	2	8.75	5.98	3.32	56	300	13.35	
1605	1	8.76	6.13	2.61	58	303	12.01	200.2/min 132.36
1615	6	8.67	6.18	2.34	58	306	11.58	
1625	8	8.59	6.19	NA	59	309	11.35	END of DAY 3 FEB 98
1740	8	7.71	6.28	0.98	66	188	17.67	100.2/min 132.37 - 4 FEB 98
0745	8.5	7.71	6.24	0.70	63	203	11.85	
0750	7.0	7.68	6.21	0.84	62	219	11.64	
0755	9.5	7.57	6.19	0.81	62	230	11.74	
0800	10.0	7.49	6.18	0.74	62	237	11.74	DFW 132.37 100.2/min
0805	10.5	7.44	6.17	0.57	62	245	11.66	
0810	11.0	7.60	6.17	0.53	63	250	11.57	
0815	11.5	7.61	6.17	0.54	62	254	11.50	

SAMPLE WITHDRAWAL METHOD: <u>BLADDER PUMP</u>
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);</u>
<u>TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)</u>
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>40 ml; 1 L Amber; 1 L Poly</u>
SAMPLE ID NUMBER(S): <u>W26 SS.4; W26 SS.1</u>
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>DECON GAL SYSTEM</u>
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____
DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²h

Saturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)

[illegible]

OGDEN

GROUND-WATER SAMPLING LOG

MW-275

PROJECT NUMBER: 313 000 103 LOCATION: MMR DATE: 11/20/97WELL NO. 27 CLIMATIC CONDITIONS: Sunny, 45° TIME: 1525REMARKS: _____ SAMPLER: TD, KD**WELL PURGING:**STATIC WATER LEVEL: 118.99 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 200 ml/min.**WELL PURGE DATA:**

TIME DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	COLOR	ORP	DO	COMMENTS
1525	1	9.09	5.89	80	9.74	Clear	280.0	11.91	Static WL: 118.99
1545	4	9.41	5.83	80	11.20	"	291.3	12.01	Flow Rate: 200ml/min
1605	8	9.35	5.77	81	4.65	"	309.9	12.29	
1625	12	9.22	5.78	81	2.88	"	311.3	12.29	
11/21 0845	14	9.74	5.76	103	1.68	"	267.4	11.37	Flow Rate: 200ml/min
0855	16	9.72	5.75	101	1.54	"	272.9	11.39	DTW: 118.96'
0905	18	9.66	5.72	92	1.46	"	280.2	11.41	
0915	20	9.68	5.71	91	1.52	"	284.1	11.49	DTW: 118.99'
0925	22	9.72	5.71	91	1.57	"	287.3	11.57	Flow rate: 200ml/min
0930 Sample Time _____ Colorimetric DO Reading: 11 Turbidity before Metals Sample: 0.92									
Colorimetric pH Readings: VOCs: 2, EDB: 6, TOC: 2, Metals: 2, Cyanide: 11, Phosphorus: 2, Unpreserved: 6									

SAMPLE WITHDRAWAL METHOD: Low flow BladderLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCL) EDB (Na₂S₂O₃) MTBE (HCL)
TOC (H₂SO₄), SVOC, Exp., Herb, PCB/Pest, Alk (None), CN (NaOH), NO₃, NO₂ (H₂SO₄) Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 - 40ml, 4 - 1 Liter Amber, 9 - 1 Liter PolySAMPLE ID NUMBER(S): W27SSA + W27SSLDECON METHOD: Liquinox wash, DI rinse, Methanol rinse, DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MM12 DATE: 3 Nov 97
 WELL NO. MW285 CLIMATIC CONDITIONS: Sunny, clear, slight breeze, 50° TIME: 8:10
 REMARKS: Collect sample @ 0900 SAMPLER: CH/AAKD

WELL PURGING: STATIC WATER LEVEL: 97.46 ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.
 REMOVAL METHOD: Bladder Suck Flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA: Colorimetric DO = 12 mg/L

TIME DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	ORP COLOR	DO	COMMENTS
0810	0	11.63	5.63	53	1.25	389	11.49	
0815	0.5	11.64	5.65	54	1.15	390.0	11.45	
0820	1.0	11.64	5.66	54	1.05	398.8	11.44	
0825	1.5	11.58	5.68	55	0.98	398.9	11.47	
0830	2.0	11.48	5.68	55	1.07	402.6	11.50	
0835	2.5	11.45	5.68	55	0.88	404.3	11.53	
0840	3.0	11.51	5.64	55	0.79	407.1	11.55	
0845	3.5	11.51	5.70	55	0.75	408.6	11.59	DTW 107.44 FT
0850	4.0	11.49	5.70	55	0.94	408.9	11.62	
0855	4.5	11.44	5.70	55	—	412.3	11.65	
0900	5.0	11.38	5.69	55	0.86	415.0	11.62	

SAMPLE WITHDRAWAL METHOD: Bladder Suck Flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCL); MTBE (HCL); EDB (Na₂S₂O₃);
TOC (H₂SO₄); SVOC; PCB/PEST-HERB-EXP-ALK (NONE); METALS (HNO₃); CN (NaOH)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: No. NO₂ - PHOS (H₂SO₄)

9 LAMBER; 11 40 ml; 4 POLY (1L)

SAMPLE ID NUMBER(S): W2855A/W2855L; EQUIP RINSE - W2855E

DECON METHOD: METHOD WASHERS DECON; METH RINSE; DO RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: Colorimetric pH - VOC/MTBE - 2; TOC - 1; EDB - 5;
 PHOSPHOROUS/AMON - 1; NITRATE - NITRATE - 1; CYANIDE - 10; METALS - 1
 SAMPLES DELIVERED TO: ITS TRANSPORTER: 1

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

OGDEN

GROUND-WATER SAMPLING LOG

PROJECT NUMBER: MMR LOCATION: 313000103 DATE: 3 Nov 97

WELL NO. MW295 CLIMATIC CONDITIONS: cloudy, windy - 60°F TIME: 1340

REMARKS: Colorimetric
 $\text{pH} - \text{NO}_2/\text{MTBC}(\text{HCl}) = 1$; $\text{EOD}(\text{Na}_2\text{S}_2\text{O}_3) = 5$; SAMPLER: CH/KD
 $\text{TOC}(\text{H}_2\text{SO}_4)$; Metals (HNO_3) = 2; $\text{PHOS}(\text{NO}_2 - \text{NO}_3(\text{H}_2\text{SO}_4)) = 1$; $\text{CN}(\text{NaOH}) = 10$

WELL PURGING: STATIC WATER LEVEL: 101.82 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: BUMPER SLOW FLOW PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

Time DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	Color	DO	COMMENTS
1355	0	12.97	6.04	603	2.36	233.4	12.33	
1400	0.5	12.09	5.79	63	0.91	300.6	11.54	
1405	1.0	12.24	5.75	63	1.04	336.3	11.40	DTW 101.85
1410	1.5	12.71	5.77	64	0.70	355.6	11.31	
1415	2.0	12.70	5.78	64	0.47	367.1	11.31	
1420	2.5	11.83	5.79	62	0.43	385.2	11.50	
1425	3.0	11.56	5.77	62	0.39	393.6	11.53	
1430	3.5	11.54	5.76	62	0.42	396.9	11.52	DTW 101.85
1435	4.0	11.75	5.76	62	0.47	399.0	11.49	
Collect Sample @ 1445								
Colorimetric DO = 10 mg/L								

SAMPLE WITHDRAWAL METHOD: BUMPER SLOW FLOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: NO₂(SO₂), MTBC(HCl), EOD(Na₂S₂O₃),
TOC(H₂SO₄), SVOC-PCB/PST-HERB-EXP-ALK(HNO₃), CN(NaOH), METALS(HNO₃);

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: PHOS/NO₂ - NO₃(H₂SO₄)

9 - 1L AMBER, 11 - DR, 4 - 1L POLY

SAMPLE ID NUMBER(s): MW295SA, MW295SL

DECON METHOD: ALCONOX WASH, DI RINSE, META RINSE, DI RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/20/97
WELL No.: W30 CLIMATIC CONDITIONS: CLEAR, 40°F TIME: 10:00
REMARKS: SPLIT w/ TRC SAMPLER: K&TD

WELL PURGING: _____ STATIC WATER LEVEL: 27.88 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 200 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
10:05	0	10.15	6.17	10.12	89	241.5	12.31	Static level: 27.88'
10:10	1	10.20	6.00	1.98	88	250.8	12.10	Flow rate: 200 ml/min
10:15	2	10.26	5.82	1.59	87	260.5	12.17	
10:20	3	10.33	5.74	2.30	87	266.2	12.20	
10:25	4	10.38	5.69	2.29	87	269.5	12.24	
10:30	5	10.45	5.66	2.50	86	270.7	12.31	Flow rate
10:35	6	10.44	5.63	1.60	85	271.3	12.35	DTW 200 ml/min
10:40	7	10.40	5.60	1.60	84	272.2	12.35	DTW 27.94'

10:50: Sample Time

Colorimetric pH Readings: VOCs: 2, EDB: 6, TOC 2, Metals 3, Cyanide 12, Phosphorus 2,

Unpreserved: 6

Colorimetric DO Reading: 11 ppm Turbidity before Metals Sample: 2.02 NTU's

SAMPLE WITHDRAWAL METHOD: SLOW FLOW BLADDER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 1140 ml: 4 1 L Amber, 9 1 L PolySAMPLE ID NUMBER(S): W30SSA + W30SSLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 26 FEB 98
 WELL No.: C519MWZ CLIMATIC CONDITIONS: Sunny, windy, 45°F TIME: 1100
 REMARKS: TRC collect split SAMPLER: CH/ID

WELL PURGING: _____ STATIC WATER LEVEL: 114.99 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1115	0	10.03	6.42	NA	80	192	15.68	<100 g/min
1125	~0.5	10.06	6.50	123	80	189	13.75	
1135	1.0	9.81	6.52	129	79	190	13.92	
1145	1.5	9.67	6.52	133	78	192	14.31	~50 g/min
1155	2.0	9.64	6.49	130	77	192	14.44	~100 g/min DTW 114.97' TC
1205	3.0	9.78	6.35	103	75	199	15.20	
1215	4.0	9.79	6.25	84.0	73	204	14.51	
1225	5.0	9.77	6.19	73.6	72	209	14.24	100 g/min DTW 114.95' TC
1235	6.0	9.76	6.14	64.1	71	213	13.92	
1245	7.0	9.70	6.10	57.2	70	217.5	13.81	
1257	8.0	9.66	6.04	50.2	69	222.2	13.73	100 ml/min DI 114.97'
1305	9.0	9.59	6.00	44	69	226.5	13.76	

SAMPLE WITHDRAWAL METHOD: Bladder Pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (Na₂S₂O₃), MTBE (HCl);
TOC (H₂SO₄), SVOC (None), EXP (None), Herb (None), PCB/Pest (None), Alk (None), CN (NaOH), NO₂/NO₃ (H₂SO₄), Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): EC = VOC2XXxE; SAMPLE = VOC2XXA/WC2XXC

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1315	10.0	9.49	5.97	39.9	68	230.6	13.74	
1325	11	9.40	5.94	34.7	67	234	13.74	100 ml/min DIW 114.98 TDS
1335	12	9.41	5.91	39.4	67	237	13.73	
1345	13	9.45	5.88	30.7	67	241	13.70	
1355	14	9.45	5.87	28.1	66	244	13.70	
1405	15	9.44	5.86	25.8	66	247	13.69	
1415	16	9.40	5.84	23.9	66	249	13.72	
1420	16.5	9.45	5.87	22.6	66	251	13.68	
1425	17	9.45	5.83	21.7	66	254	13.70	100 ml/min DIW 114.98 TDS
1430	18.5	9.48	5.83	32.6	65	254	14.10	

Colorimetric DO = mg/LFinal Turbidity before metals sample = NTU

0740								27 Feb 98
0810	18.75	7.39	5.85	10.9	87.00	181	21.12	DIW 115.01 100 ml/min
0815	19.25	7.82	5.71	9.00	72.00	198	21.16	
0820	20.75	7.99	5.62	9.21	69	209.2	21.03	
0825	20.25	8.02	5.56	11.0	65	217	21.07	
0830	20.75	8.21	5.50	12.1	62	224	21.00	
0835	21.25	8.25	5.52	15.7	62	227	21.48	
0845	22.25	8.01	5.51	17.2	62	228	21.83	DIW 115.01 100 ml/min
0855	23.25	8.02	5.56	20.7	62	232	23.73	
0905	24.25	8.24	5.51	19.2	61	239	22.64	
0915	25.25	8.36	5.49	25.0	62	244	21.62	
0920	25.75	8.45	5.50	17.7	62	244	21.30	
0925	26.25	8.56	5.50	16.7	62	246	20.43	DIW 115.01 100 ml/min
0930	26.75	8.61	5.50	16.5	62	247	20.76	
0935	27.25	8.73	5.50	15.6	62	247	20.12	

Colorimetric DO = mg/LFinal turbidity before metals sample = 12.3 NTU

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 10/6/97

WELL NO. C519-5E CLIMATIC CONDITIONS: sunny, ~80°F TIME:

REMARKS: only collected VOC/SVOC for equipment rinsate SAMPLER: RP/CH

WELL PURGING:

STATIC WATER LEVEL: 116.21 ft. WELL DEPTH: ft.

LENGTH OF SATURATED ZONE: linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Low Flow Bladder PUMPING RATE: ml/min.

WELL PURGE DATA:

TIME DATE 10/6	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
1350	10.49	5.28	5.78	40	393.1	12.55	500	0	
1355	10.39	5.31	3.52	39	395.5	12.61	500	0	
1400	10.31	5.33	3.61	39	396.5	12.63	500	0	
1405	10.66	5.44	2.20	39	392.4	12.26	450	0	
1410	10.71	5.52	2.81	39	389.4	12.37	450	0	
1415	10.65	5.55	2.83	39	388.9	12.27	800	0	
1420	10.66	5.59	2.56	39	388.7	12.36	300	0	
1425	10.66	5.61	2.63	39	389.9	12.33	300	0	
1430	10.62	5.62	2.65	39	389.1	12.32	300	0	

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);

SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L poly

SAMPLE ID NUMBER(S): WC5EXA, WC5EXE

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER:

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER:

DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 10/3/97
 WELL NO. CS19-6E CLIMATIC CONDITIONS: Sunny, ~65°F TIME: 1145
 REMARKS: FID response over open well = 0 ppm SAMPLER: JH/CH

WELL PURGING: STATIC WATER LEVEL: 112.29 ft. (PVC) WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE 10/3	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
1015									Start pumping - readings too unstable to record
1030	13.94	5.36	16.2	35	453.8	13.36	80	0	0.5 gal purged
1035	13.94	5.38	16.4	35	454.5	13.38	90	0	
1040	13.95	5.39	11.5	35	455.6	13.41	80	0	
1045	14.20	5.42	11.6	34	457.0	13.41	100	0	
1050	13.72	5.42	12.8	34	457.2	13.55	150	0	
1055	12.88	5.43	13.4	33	460.2	13.66	130	0	
1100	12.89	5.43	13.0	33	460.4	13.66	130	0	~1 gal purged
1105	12.96	5.44	11.3	34	460.8	13.67	130	0	

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L poly

SAMPLE ID NUMBER(S): WCGEXF, WCGEXA, WCGEXD

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER: 1

DATE: _____ TIME: _____

DO Measurement = 10 ppm

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA WELL: CS19-6E

[illegible]

OGDEN

GROUND-WATER SAMPLING LOG

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10/7/97

WELL NO. CS19-7C CLIMATIC CONDITIONS: Sunny ~75°F TIME: 14:00

REMARKS: FA = 0PPM SAMPLER: JH/CH

WELL PURGING:

STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Low flow bladder pump PUMPING RATE: 330 ml/min.

WELL PURGE DATA:

DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	COLOR	ORP	DO	Rate	DO
TIME								COMMENTS		
1400		12.14	6.73	44	2.48	clear	119.9	11.19	.35	Ø
1405		12.11	6.20	42	1.54	clear	186.6	11.91	.35	Ø
1410	~2	11.97	5.94	40	1.13	clear	242.2	12.02	.30	Ø
1415		11.83	5.81	40	1.33	clear	274.9	12.03	.35	Ø
1420		11.80	5.75	39	0.75	clear	302.6	12.10	.35	Ø
1425	~4	11.75	5.71	39	0.80	clear	324.4	12.15	.35	Ø
1430		11.82	5.69	39	0.79	clear	338.4	12.13	.33	Ø
		11.80	5.68	39	0.90	clear	341.7	12.15	.33	Ø
1435		11.76	5.68	39	0.95	clear	352.4	12.18	.33	Ø
1440		11.63	5.67	39	1.25	clear	355.5	12.27	.33	Ø
1445		11.63	5.66	39	0.93	clear	358.7	12.25	.33	Ø

SAMPLE WITHDRAWAL METHOD: low flow bladder pump / poly tubing

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC, SOB, MTBE, TOC, SUOC, EXP, PCR/Pst, Herb, Cyanide, Alk/cu/Sy, NO₂/NO₃/NH₄, total metals, dissolved metals

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 9-1LA, 4-1LP, 11-40ml

DO = 8 PPM

SAMPLE ID NUMBER(s): WCTCXA (1500) Equip. Blank collected 10/6/97

DECON METHOD: WCTCIA (1500)

PURGE WATER DISPOSED OF IN DRUM NUMBER: clammed then GACed

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 08 Oct 97
WELL No.: MWTE CLIMATIC CONDITIONS: _____ TIME: 0840
REMARKS: Collect Split Sample with TRC SAMPLER: CH/JH/RP

WELL PURGING: _____ STATIC WATER LEVEL: 131.91 ft. WELL DEPTH: _____ ft.
LENGTH OF SATURATED ZONE: _____
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
REMOVAL METHOD: Bladder slow flow PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0900	0	10.79	5.37	0.97	39	429.1	15.71	
0905	1.25	10.73	5.40	0.75	39	436.8	15.12	
0910	2.50	10.67	5.43	0.78	40	446.6	15.14	
0915	3.75	10.66	5.45	0.66	40	446.0	15.09	
0920	5.0	10.62	5.47	0.75	40	440.8	15.09	
0925	6.25	10.60	5.48	0.74	40	443.6	15.00	
0930	7.50	10.59	5.49	0.56	40	445.2	15.01	
0935	8.75	10.55	5.50	0.75	40	451.6	15.00	
0940	10.00							

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly
D.O. = 8 ppm

SAMPLE ID NUMBER(S): WC7EXA / WC7EXL

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC system

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



GROUND-WATER SAMPLING LOG

Page 1 of 1

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 10/2/97WELL NO. CS-09E CLIMATIC CONDITIONS: cloudy, windy, 60°F TIME: 1100REMARKS: FID response over open well = 0 PPM SAMPLER: JH/CH/EP

WELL PURGING:

STATIC WATER LEVEL: 122.22 ft. ^{from} _{PVC} WELL DEPTH: _____ ft.LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
1020	10.94	5.53	8.05	41	439.7	13.76	300	0	
1025	10.93	5.54	3.96	41	436.3	13.69	300	0	
1030	11.02	5.55	13.49	41	436.6	13.64	300	0	8 L purged
1035	10.97	5.57	12.92	41	436.9	13.59	300	0	
1040	10.95	5.58	9.76	41	439.2	13.51	300	0	
1045	10.93	5.58	12.84	41	439.7	13.44	300	0	10 L purged
1050	10.95	5.58	4.3	41	440.9	13.52	300	0	
1055	10.89	5.59	4.67	42	442.0	13.49	300	0	
1100	10.93	5.59	4.51	42	443.2	13.48	300	0	16 L purged

SAMPLE WITHDRAWAL METHOD: Low Flow BladderLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L polySAMPLE ID NUMBER(S): WC9EXE, WC9ELE, WC9EXA, WC9ELADECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 10/7/97

WELL NO. CS19MW10A CLIMATIC CONDITIONS: partly cloudy, breezy TIME: 1040

REMARKS: _____ SAMPLER: CH/RP

WELL PURGING: STATIC WATER LEVEL: 116.21 ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
1056	11.49	7.43	2.2	98	94.3	1.52		0	0 Liters purged
1101	11.36	7.60	2.26	105	80.9	8.3	300	0	1.5 "
1106	11.36	7.63	2.15	107	71.8	7.5		0	3.0 "
1111	11.25	7.60	2.56	108	57.1	6.5		0	4.5 "
1116	11.31	7.73	2.81	108	36.5	5.8		0	6.0 "
1121	11.30	7.75	2.84	108	21.4	5.4		0	7.5 "
1126	11.16	7.78	3.92	108	5.6	5.3		0	9.0 "
1131	11.19	7.80	3.95	108	-3.9	5.0		0	11.5 "
1136	11.20	7.81	4.55	108	-16	4.9		0	12.0 "
1141	11.28	7.82	4.65	109	-33.5	4.7		0	13.5 "
1146	11.24	7.83	4.82	109	-53.9	4.5		0	15.0 "

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
 SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L poly

SAMPLE ID NUMBER(S): WC10XA, WC10XL

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/2/97
WELL No.: CS19-11E CLIMATIC CONDITIONS: _____ TIME: 1510
REMARKS: FID Reading = 0PPM SAMPLER: JH/CH/RP

WELL PURGING: _____ STATIC WATER LEVEL: 125.66 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 300 ml/min.

WELL PURGE DATA:

TIME	Gallons LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Drawdown COMMENTS	Pumping Rate L/min
1400		11.10	5.66	4.5	39	399.4	12.90	0	0.5
1405	1.5	10.95	5.65	6.7	40	403.5	12.79	0	0.5
1410		10.92	5.68	6.81	40	405.5	12.78	0	0.5
1415		10.90	5.65	7.58	40	408.1	12.75	0	0.5
1420	3	11.37	5.66	13.9	40	412.8	12.66	0	0.3
1425		11.19	5.68	10.01	40	412.9	12.64	0	0.3
1430	4	11.29	5.68	10.87	40	418.5	12.76	0	0.3
1435		11.31	5.68	11.38	40	419.5	12.79	0	0.3
1440	5	11.37	5.68	11.25	41	418.4	12.69	0	0.3
1445		11.28	5.68	11.1	41	419.1	12.81	0	0.3
1450	6	11.34	5.69	10.01	40	420.5	12.80	0	0.3
1455		11.35	5.69	9.50	40	422.5	12.79	0	0.3
1500	7	11.31	5.69	10.2	40	423.1	12.70	0	0.3

SAMPLE WITHDRAWAL METHOD:

Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED:

11 40 ml; 9 1 L Amber; 4 1 L PolyColimetric D.O. Reading @ 1510 = 8-10 ppm

SAMPLE ID NUMBER(S):

WC11XE(1305), WC11LE(1305), WC11XA(1510),
WC11XL(1510)

DECON METHOD:

Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER:

Drummed and then GACed
by decon GAC unit

SAMPLES DELIVERED TO:

ITS

TRANSPORTER:

DATE:

TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d1)^2 - (d2)^2]h(0.3)$

OGDEN

GROUND-WATER SAMPLING LOG

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 11 Nov 97

WELL NO. LRWS 1-2 CLIMATIC CONDITIONS: clear, 14 mi, 50°F TIME: 1540

REMARKS: _____ SAMPLER: CN7

WELL PURGING:

STATIC WATER LEVEL: 8.49 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: BLADDER SLOW FLOW PUMPING RATE: 100 ml/min ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS - L REMOVED	TEMP	pH	COND.	TURBIDITY	ORP COLOR	DO	COMMENTS
1550	0	10.14	8.10	94	—	-435	1.25	50 ml/min
1555	.250	10.42	8.06	94	58	-502	0.86	125 ml/min
1600	1.0	10.54	8.01	95	52.9	-509	0.71	100 ml/min
1605	1.5	10.30	7.90	95	49.3	-486	0.72	
1610	2.0	10.26	7.79	96	49.4	-482	0.75	
0740	2.0	8.89	6.73	105	62.9	-391	5.67	START 12 NOV 97
0745	4.48	9.35	6.69	105	92.1	-360	4.06	500 ml/min
0750	5.0	8.99	6.64	105	102.6	-331	4.36	100 ml/min DTW 949
0755	5.5	8.98	6.57	105	114.2	-312	4.58	
0805	6.5	8.76	6.50	105	106.0	-266	5.03	
0815	7.5	8.89	6.49	105	89.8	-254	5.27	

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCL); MTBE (HCL); EDB (Na₂S₂O₃);
TOC (H₂SO₄); CN (NaOH); METALS (HNO₃); PHOS / NO₂-NO₃ (H₂SO₄); SVOC - HEZB - EXP -

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: PEST/PCB - ALK (NONE)

40 ml; 1 L AMBER; 1 L POLY

SAMPLE ID NUMBER(S): WL12XA; WL12XL;

DECON METHOD: LOW DROW WASH; DE RINSE; METH RINSE; DE RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: GAC

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

12 Nov 97

Colorimetric Tit:

$$VOC / MPBZ (HCl) = 2$$
$$\text{ADP} \quad (n, 5, 0) = 5$$

TOC (45500) = 2

MEIACS (H₂O₂) - 2
$$\frac{C_{H_2O}}{(C_{H_2O})^0} = 1$$

P.K.S / M.T. no. (H.S. 4) = 2

Colorimetric DO = 6 mg/l

TURBIDITY PRIOR TO COAGULATING METALS = 14.24



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 21 Nov 97
WELL No.: LRWS2-3 CLIMATIC CONDITIONS: clear, 14 hr freeze TIME: 1200
REMARKS: SPLIT W/ TRC 54°F SAMPLER: CH/AB

WELL PURGING: _____ STATIC WATER LEVEL: 35.29 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	ms/cm COND.	mv ORP	mg/L DO	COMMENTS
1200	0	10.50	6.88	1.15	7	231	16.78	200 ml/min - DI WATER
1210	2.0	10.09	5.94	3.19	51	347	18.55	100 ml/min
1215	4.5	10.07	5.91	2.14	67	349	17.97	100 ml/min
1220	3.0	10.11	5.95	1.56	73	350	17.85	
1225	3.5	10.15	5.98	1.48	72	350	17.86	
1230	4.0	10.25	5.97	1.25	72	352	17.83	DTG 35.80
1235	4.5	10.29	5.99	0.99	73	353	17.78	100 ml/min
1235	Collect sample							
Colorimetric DO = 10 mg/L								

SAMPLE WITHDRAWAL METHOD: Bladder Slow FlowLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(S): WL23XA; WL23XL; EQUIPMENT RINSE TO
WL23XFDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

OGDEN

GROUND-WATER SAMPLING LOG

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 20 OCT 97

WELL NO. LRLW 2-6 CLIMATIC CONDITIONS: Cloudy, Windy, Intermittent rain, 55°F TIME: 0555

REMARKS: QA-DUP Collected SAMPLER: CH/KD/JE

EQUIP RINSE, SAMPLE ID WL26XE

WELL PURGING:

STATIC WATER LEVEL: 54.84 ft. (TOC WELL DEPTH: _____ ft.)

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: BLADDER SLOW FLOW PUMPING RATE: 200 mL/min ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS L REMOVED	TEMP	pH	COND.	TURBIDITY	CRP COLOR	DO	COMMENTS
10:10	0	10.49	6.03	46	3.50	201.6	12.54	DEPTH 200m/min
10:15	1	10.48	6.14	49	3.30	209.2	12.90	54.82' " "
10:20	2	10.45	6.20	51	2.99	218.9	12.74	(DTW) " "
10:25	3	10.44	6.26	54	2.30	230.7	12.62	" "
10:30	4	10.44	6.28	55	1.98	234.1	12.59	" "
10:35	5	10.43	6.29	57	1.96	239.9	12.64	" "
Colorimetric DO = 7 mg/L								
Sample collected @ 10:50								

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); PCB (HCl); EOB (Na₂SO₃);
SUX (None); EXP (None); HERB (None); PEST (PCB) (None); ALK (None); METALS (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: CU (NaOH); NO₂/NO₃ (H₂SO₄); TOC (H₂SO₄)

11-40 mL; 9-1L AMBER; 4-1L POLY

SAMPLE ID NUMBER(S): WL76DA; WL2SLA; WL26YA

DECON METHOD: LIQUIDAX WASH; DI RINSE; METH RINSE; DI RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10/20/97
 WELL NO. W3-1 CLIMATIC CONDITIONS: CLOUDY, WINDY, INT. RAIN, 55°F TIME: 14:00
 REMARKS: COLLECTING MSMSD SAMPLER: CH/KD/JC

WELL PURGING: STATIC WATER LEVEL: 19.01 ft. WELL DEPTH: 119.8 ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: BLADDER SLOW FLOW PUMPING RATE: 150 ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	ORP COLOR	DO	COMMENTS	Flow RATE
14:05	0	10.25	6.89	75	158.5	-406.9	1.5		150 ml/min
14:10	0.6	9.98	7.10	68	250	-491.0	0.78		" "
14:15	1.2	10.33	7.19	67	322	-502.9	0.69		" "
14:25	2.4	10.09	7.17	66	599	-438.6	1.28		" "
14:35	3.6	9.90	7.03	66	603	-303.1	4.63		" "
14:45	4.8	9.85	7.01	66	430	-235.7	6.94		" "
14:55	6.0	9.81	6.99	66	256	-183.5	7.96		" "
17:05	7.2	9.77	6.97	65	156	-209.0	8.82		350 ml/min
17:15	8.4	9.80	6.96	65	115	-223.9	9.28		300 ml/min
17:25	9.6	9.81	6.94	64	89	-235.6	9.39		" "
17:35	10.8	9.79	6.92	64	62.4	-228.7	9.67		" "

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCL), MTBE (HCL), EDB
(Na₂SO₃), SVOC (NONE), EXP (NONE), HERB. (NONE), PEST (PCB) (NONE), ARX (NONE)
METALS (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: CN (NaOH), NO₂/NO₃ (H₂SO₄),

TOC (H₂SO₄), 11-40ML, 9-1L AMBER, 4-1L Poly

SAMPLE ID NUMBER(S): WL31XA & WL31XL

DECON METHOD: LIQUID NOX WASH & DI RINSE, METH RINSE, DI RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____



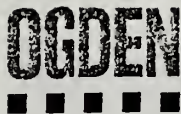
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	(Flow Rate) COMMENTS
7:47	0	9.67	6.25	10.4	70	-261.2	9.89	200ml/min
7:50	0.6	9.58	6.31	-	67	-277.3	7.59	PUMP FAILED
-	-	-	-	-	-	-	-	-
8:15	0.6	9.06	6.67	23.8	63	-312.5	4.11	200ml/min
8:20	1.9	9.32	6.70	10.8	63	-252.8	5.42	200ml/min
8:25	2.9	9.37	6.70	74.5	62	-202.3	6.48	" "
8:30	3.9	9.36	6.70	55.1	62	-128.2	7.27	" "
8:35	4.9	9.39	6.70	41.9	62	-95.8	8.19	" "
8:40	5.9	9.42	6.71	30.1	62	-80.5	8.36	" "
8:45	6.9	9.45	6.71	23.7	62	-70.0	9.52	" "
8:50	7.9	9.45	6.71	17.9	62	-66.5	10.80	" "
8:55	8.9	9.48	6.71	15.4	63	-63.1	9.94	" "
9:00	9.9	9.51	6.71	12.1	63	-56.7	10.10	" "
9:05	10.9	9.50	6.71	10.4	63	-47.4	14.10	" "
9:10	11.9	9.53	6.71	10.8	63	-39.3	10.49	" "
9:15	12.9	9.54	6.71	9.2	63	-31.44	11.15	" "
9:20	13.9	9.62	6.71	7.8	63	-27.0	10.98	" "
9:25	14.9	9.68	6.71	11.2	63	-25.7	11.01	" "
9:30	15.9	9.68	6.71	7.7	63	-21.6	10.50	" "
9:35	16.9	9.70	6.72	6.2	63	-14.3	11.10	" "
9:40	17.9	9.75	6.72	6.2	63	-17.4	11.09	" "
9:45	18.9	9.76	6.72	5.9	63	-12.7	11.25	" "
9:50	19.9	9.70	6.72	5.6	63	-10.6	11.21	" "
9:55	20.9	9.71	6.72	7.3	63	-10.2	11.42	" "
10:00	21.9	9.73	6.73	11.2	63	-6.0	11.39	" "
10:05	22.9	9.79	6.72	8.85	63	-7.5	11.33	" "
10:10	23.9	9.83	6.72	9.53	63	-7.6	11.23	" "
10:15	24.9	9.82	6.73	11.02	63	-6.3	10.92	" "
10:20	25.9	9.81	6.73	10.56	63	-6.9	10.63	" "
10:25	26.9	9.79	6.74	8.54	63	-6.4	10.41	" "
10:30	27.9	9.80	6.73	10.10	63	-8.2	10.65	" "
10:35	28.9	9.79	6.73	9.60	63	-12.5	10.91	" "
10:40	29.9	9.79	6.73	8.12	63	-12.2	11.31	" "
10:45	30.9	9.81	6.74	8.49	63	-13.0	10.91	" "
10:50	31.9	9.80	6.74	23.8	63	-13.4	10.38	" "
10:55	32.9	9.80	6.74	10.6	63	-9.3	10.90	" "
11:00	33.9	9.80	6.74	9.6	63	-8.4	11.03	" "

No

AFLOWTHRU CELL - 8.5NTU'S - > BEGINS SAMPLING @ 11:00

Colorimetric DO = 9 mg/L

DTW
19.11DTW
19.05



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 24 Nov 97
WELL No.: LRWS4-1 CLIMATIC CONDITIONS: partly cloudy TIME: 0905
REMARKS: SE wind, 40°F SAMPLER: CH/RG

WELL PURGING: STATIC WATER LEVEL: 51.25 ft. TOE WELL DEPTH: ft.

LENGTH OF SATURATED ZONE: VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0915	0	8.16	6.87	30.8	23	24.4	11.46	100 ml/min
0920	0.5	8.23	6.90	52.1	163	-139	4.49	
0925	1.0	8.17	7.65	47.6	199	-513	1.99	Flow 51.15
0930	1.5	8.04	7.83	41.3	203	-538	1.43	100 ml/min
0935	2.0	8.04	7.86	37.1	205	-397	1.02	
0940	2.5	8.14	7.63	32.5	210	-384	0.83	
0945	3.0	8.15	7.49	30.5	213	-374	0.78	
0950	3.5	8.17	7.30	27.6	215	-364	0.74	100 ml/min
0955	4.0	8.15	7.11	24.6	214	-360	0.78	
1005	5.0	8.23	6.88	23.8	216	-359	1.00	
1015	6.0	8.31	6.71	23.1	216	-336	1.39	
1025	7.0	8.35	6.55	23.8	216	-294	2.03	
1035	8.0	8.32	6.43	22.6	215	-257	2.73	

SAMPLE WITHDRAWAL METHOD: Bladder Slow Flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): WL41XA; WL41XLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITSTRANSPORTER: DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



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ARW84-1

24 NOV 97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1045	9.0	8.22	6.33	22.8	214	-210	3.50	100 ml/min - DTW 51.41
1055	10.00	8.38	6.27	25.1	213	-170	4.27	
1105	11.00	8.50	6.22	23.5	212	-134	4.85	
1115	12.00	8.49	6.18	21.5	210	-108	5.32	
1125	13.00	8.45	6.14	19.2	207	-84	5.85	
1135	14.00	8.35	6.11	18.9	205	-67	6.24	
1145	15.00	8.30	6.09	19.8	203	-55	6.61	
1155	16.00	8.40	6.07	20.1	203	-41	6.94	
1205	17.00	8.34	6.04	18.1	201	-31	7.36	
1215	18.00	8.40	6.02	16.4	200	-20.5	7.73	
1225	19.00	8.52	5.99	12.5	200	-13.5	8.07	
1235	20.00	8.61	5.97	9.4	199	-2.5	8.34	100 ml/min
1240	20.5	8.55	5.95	8.3	196	5.4	8.52	
1245	21.0	NA	NA	6.6	NA	NA	NA	FLOWTHRU CELL
1250	21.5	NA	NA	5.7	NA	NA	NA	DIED
1255	22.0	NA	NA	4.4	NA	NA	NA	
1300	22.5	NA	NA	3.5	NA	NA	NA	
1305	23.0	NA	NA	2.9	NA	NA	NA	
1310	23.5	NA	NA	2.7	NA	NA	NA	
1315	24.0							

SAMPLE @ 1315

Colorimetric DO = 8 mg/L

TURBID PRIOR TO METALS COLLECTION = 1.34 NTUS



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 5-28-98
WELL No.: LRWS-4-1 CLIMATIC CONDITIONS: Sunny/Temp 75°F TIME: 11:30
REMARKS: _____ SAMPLER: WG/

WELL PURGING: _____ STATIC WATER LEVEL: 49.59 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 175 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1220	0	14.53	8.06	44.2	0.111	-450.7	1.71	DTW 175 ml/min 49.59
1230		14.09	7.97	44.8	0.113	-495.7	1.08	" "
1235		13.75	7.37	42.9	0.091	-500.1	0.57	" "
1240		13.60	6.79	41.3	0.116	-454.8	0.60	" "
1245		13.09	6.26	32.2	0.115	-410.8	1.04	" "
1250		13.09	6.26	29.6	0.115	-369.1	1.78	" "
1255		13.01	6.21	26.4	0.113	-374.1	2.54	" "
1300		13.01	6.01	25.0	0.113	-370.6	2.80	" "
1305		12.72	5.94	22.9	0.111	-229.5	4.02	" "
1310		12.32	5.90	21.2	0.108	-225.0	4.08	" "
1315		12.36	5.86	17.9	0.109	-222.0	4.16	" "
1320		12.31	5.83	14.6	0.110	-222.0	4.03	" "
1325		12.29	5.81	10.2	0.110	-230.5	4.09	" "

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 3 1 L Amber; 1 L PolySAMPLE ID NUMBER(s): WPH2A @ 1450
Colimetric D.O. - 8 ppmDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITSTRANSPORTER: FEDEx

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 25 Nov 97
WELL No.: LRW 55-1 CLIMATIC CONDITIONS: cloudy, 30°F, 11 n breeze TIME: 0740
REMARKS: collect duplicate sample SAMPLER: CA/RG

WELL PURGING: _____ STATIC WATER LEVEL: 70.00 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	OC TEMP	pH	NTU TURBIDITY	ms/cm COND.	MV ORP	mg/l DO	COMMENTS
0755	0.5	6.41	8.18	31.5	134	-260	1.93	100 ml/min
0805	0.5 1.0	6.90	8.92	60.3	115	-399	0.92	
0815	0.5 2.0	7.14	8.51	65.6	110	-414	2.05	100 ml/min
0825	0.5 3.0	6.80	7.94	55.4	112	-336	3.24	
0835	0.5 4.0	6.74	7.45	41.1	113	-230	4.29	
0845	0.5 5.0	6.30	7.22	29.3	113	-177	5.06	100 ml/min DTW 70.00 toe
0855	6.0	6.38	7.04	21.7	113	-144	5.68	
0905	7.0	6.45	6.94	15.3	114	-118	5.94	
0915	8.0	6.51	6.88	11.8	114	-91.4	6.36	
0925	9.0	6.73	6.84	9.8	115	-69.5	6.80	
0930	9.5	6.71	6.84	9.4	116	-58.8	6.88	
0935	10.0	6.60	6.84	8.8	116	-44.7	6.77	

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 22 40 ml; 18 1 L Amber; 7 1 L PolySAMPLE ID NUMBER(S): WLS1YA; WLS1XL; WLS1XD; WLS1DLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0940	10.5	4.28	6.81	8.0	115	-37.6	7.31	100 ml/min DTW 70.00 '00
0945	11.0	6.36	6.81	7.8	115	-35.6	7.50	
0950	11.5	6.33	6.81	7.3	115	-29.9	7.45	
0955	12	6.38	6.80	7.1	114	-24.9	7.62	
1000	12.5	6.67	6.81	7.0	115	-16.3	7.65	
1005	13	6.86	6.81	6.6	114	-13.5	7.75	
1010	13.5	6.98	6.80	6.4	114	-8.1	8.04	
1015	14	6.96	6.80	6.3	117	0.4	8.03	
1020	14.5	7.09	6.80	5.5	117	5.0	8.22	
1025	15	7.17	6.79	5.3	118	15.6	8.36	
1030	15.5	7.29	6.80	5.2	118	15.4	8.32	
1035	16	7.34	6.79	4.9	118	15.2	8.61	
1040	16.5	7.27	6.79	4.9	118	12.6	8.69	
SAMPLE @ 1040								
TURBIDITY @ TIME of METALS COLLECTION = 4.3 NTUs								
COLDIMETRIC DO = 6.16 mg/L								

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11-17-97
 WELL No.: LRWS-6S CLIMATIC CONDITIONS: Sunny 40° TIME: 10:15
 REMARKS: _____ SAMPLER: TD + KB

WELL PURGING: _____ STATIC WATER LEVEL: 57.84 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 300 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
10:15	0	7.82	10.06	40.2	95	-439.3	3.07	
10:20	1.5	8.05	10.40	46.0	95	-445.6	1.45	DTW 57.85'
10:30	4.5	8.13	10.57	47.5	93	-447.1	0.64	DTW 57.86'
10:40	7.5	8.41	9.97	58.7	83	-451.2	2.66	Rate: 300 ml/min.
10:50	10.5	8.33	9.24	50.4	81	-390.6	4.95	DTW 57.94
11:00	13.5	8.42	8.73	44.8	81	-348.8	6.13	
11:10	16.5	8.44	8.15	26.8	80	-283.1	7.66	
11:20	19.5	8.46	7.89	20.0	79	-224.8	8.59	
11:30	22.5	8.35	7.78	13.65	78	-195.4	9.09	
11:35	24.0	8.39	7.77	12.25	78	-182.3	9.81	
11:40	25.5	8.51	7.67	11.49	77	-165.1	9.57	DTW - 57.93'
10:45	27.0	8.53	7.65	10.92	77	-163.0	9.71	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): WL61XA & WL61XL

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

Turbidity Reading without flow cell is 11.84 NTU's

Colorimetric

Colorimetric D.O. Readings. 10 ppm

pH Readings:

VOCs / MTBE (HCL): 2

$$\text{EDB}(\text{Na}_2\text{S}_2\text{O}_8): 6$$

TOC (H_2SO_4): 2

Metals (HNO_3): 2

Cyanide (NaOH): 11

Phosphorus (H_2SO_4): 2

Unpreserved : 6

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/21/97
 WELL No.: LRWS7-1 CLIMATIC CONDITIONS: _____ TIME: 1350
 REMARKS: _____ SAMPLER: TD, KD

WELL PURGING: _____ STATIC WATER LEVEL: 71.02 ft WELL DEPTH: _____ ft
 LENGTH OF SATURATED ZONE: _____
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: Bladder slow flow PUMPING RATE: 300 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	DTW	COMMENTS	Pumping Rate (ml/min)
1350	2	10.61	6.55	88.4	97	-242	2.54	71.02		
1400	5	10.26	6.35	55.1	98	-43.6	5.51			300
1410	8	10.33	6.39	37.7	99	-45.0	5.95			
1420	11	10.26	6.38	23.8	98	-3.8	7.18			
1430	14	10.11	6.34	17.6	96	36.2	8.18			
1440	17	10.04	6.37	16.1	96	51.4	8.62	71.06		
1450	20	10.05	6.38	15.9	96	56.4	9.00			300
1455	21.5	10.02	6.39	15.1	96	57.8	9.05	71.07		
1500	23	10.00	6.39	15.2	95	54.1	9.13			300
1510	Collected Sample									

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly
Colorimetric D.O. Reading - 9ppm Turbidity prior to metal Sample - 12.6 NTU

SAMPLE ID NUMBER(S): WL71XA, WL71XL

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: 1

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 10/15/97
WELL No.: LRWS 8-2 CLIMATIC CONDITIONS: overcast, 50's TIME: 0940
REMARKS: _____ SAMPLER: RP/CH/SC

WELL PURGING: _____ STATIC WATER LEVEL: 53.48 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 350 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	DTW	Pumping COMMENTS RATE (ml/min)
0945	0	10.27	9.38	185	47	-583.6	0.61		
0950	1.75	10.70	8.24	179	46	-465.7	2.72		
0955	3.50	10.68	7.49	132	50	-454.8	4.68		
1000	5.25	10.67	6.99	106	53	-397.4	6.16		190
1005	6.2	11.10	6.84	91	58	-365.2	6.37	53.09	
1010	7.15	11.76	6.77	84	59	-343.7	6.45		
1015	8.1	11.96	6.72	61.5	60	-314.6	6.64		
1020	9.05	11.42	6.64	49.2	58	-307.1	7.13		
1025	10.05	11.42	6.65	42.1	58	-298.2	7.30		200
1030	11.05	11.36	6.62	36.9	58	-271.7	7.48		
1035	12.05	11.40	6.61	34.5	58	-258.1	7.59		
1040	13.05	11.42	6.60	31.8	58	-238.7	7.75		
1045	14.05	11.44	6.58	29.5	58	-217.1	7.95		

SAMPLE WITHDRAWAL METHOD: Bladder pumpLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): WL 82XADECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 10/15/97

WELL NO. LRWS-2 CLIMATIC CONDITIONS: Overcast, 50's TIME: 0940

REMARKS: SEE Page 1 SAMPLER: _____

WELL PURGING: STATIC WATER LEVEL: 53.48 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Low Flow Sampling PUMPING RATE: 350/200 ml/min.

WELL PURGE DATA:

Time DATE	GALLONS REMOVED	TEMP	pH	COND.	TURBIDITY	COLOR	ORP	COMMENTS	DO	Rate
1050	15.05	11.42	6.57	58	21.5	clear	-196.4		8.05	
1055	16.05	11.39	6.56	58	26.1	clear	-185.6		8.16	
1100	17.05	11.41	6.55	58	24	clear	-178.4		8.24	
1105	18.05	11.41	6.53	58	22.3	clear	-173.2		8.34	
1110	19.05	11.42	6.52	58	21.8	clear	-163.7		8.37	
1115	20.05	11.50	6.52	58	20.9	clear	-161.6		8.46	
1120	21.05	11.51	6.51	58	19.5	clear	-155.2		8.45	
1130	22.05	11.63	6.50	58	18.9	clear	-154.5		8.53	
1135	23.05	11.80	6.49	58	18.9	clear	-147.7		8.49	
1140	24.05	11.87	6.48	59	18.5	clear	-145.4		8.55	
1145	25.05	11.95	6.47	59	18.5	clear	-147.1		8.63	
1125	26.05	11.57	6.50	58	19.8		-152.4		8.48	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 15 Oct 97

WELL NO. LRW 8-2 CLIMATIC CONDITIONS: _____ TIME: _____

REMARKS: SEE Page 1 SAMPLER: _____

WELL PURGING:

STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

Time DATE	GALLONS REMOVED	3% TEMP	±.1 pH	3% COND.	10% TURBIDITY		± 10 ORP	10% DO	Rate
1150	27.05	11.96	6.47	59	18.3	clear	-143.2	8.64	
1155	28.05	12.06	6.47	59	18.1	clear	-133.6	8.65	
1200	29.05	12.73	6.45	59	17.7	clear	-129.3	8.55	
1205	30.05	12.82	6.42	60	17.6	clear	-127.4	8.43	
1210	31.05	12.59	6.40	59	16.5	clear	-118.2	8.64	
1215	32.05	12.21	6.40	59	16.5	clear	-112.6	8.59	
1220	33.05	12.68	6.38	59	15.9	clear	-106.9	8.50	
1225	34.05	12.86	6.35	59	15.9	clear	-102.1	8.53	
1230	35.05	12.92	6.32	59	15.0	clear	-96.4	8.58	
1235	36.05	12.85	6.30	59	14.5	clear	-90.5	8.60	
1240	37.05	12.92	6.30	59	14.1		-87.4	8.64	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 15 OCT 97
 WELL NO. LRW8-Z CLIMATIC CONDITIONS: _____ TIME: 0940
 REMARKS: SEE PAGE 1 SAMPLER: CN/RC/SC

WELL PURGING:

STATIC WATER LEVEL: _____ ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: _____ PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME	GALLONS	3%	±1	3%	10%	±10	10%	Rate
DATE	REMOVED	TEMP	pH	COND.	TURBIDITY	COLOR	ORP	COMMENTS
1245	38.05	13.03	6.28	59	13.8	clear	-84.3	8.64
1250	39.05	12.96	6.27	59	13.6	clear	-81.4	8.67
1255	40.05	12.97	6.26	59	13.6	clear	-80.1	8.67
0100	41.05	12.92	6.26	59	13.4	clear	-77.7	8.69
0105	42.05	13.05	6.27	59	13.0	clear	-74.9	8.69
0110	43.05	12.96	6.26	59	13.0	clear	-71.9	8.75
0115	44.05	12.83	6.25	58	13.0	clear	-69.2	8.74
0120	45.05	12.93	6.25	58	12.1	clear	-66.2	8.74
0125		13.21	6.21	59	12.0	11	-62.9	8.62

SAMPLE WITHDRAWAL METHOD: Sample C 1345 DD = 8 mg/L per (14 METERS)

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: _____

TOTAL DEPTH 106.50 - 19.7 = 86.80' TOC

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: _____

SAMPLE ID NUMBER(S): _____

DECON METHOD: _____

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 11/14/97
WELL No.: LRWS-10 CLIMATIC CONDITIONS: Drizzle TIME: 0910
REMARKS: _____ SAMPLER: Tim D

WELL PURGING: _____ STATIC WATER LEVEL: 11.33 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 52.130 L/min ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0910	1.00	8.01	6.48	148 NTU	97	-596	1.31	DTW 11.33'
0920	3.00	8.22	6.60	352	101	-582	1.01	Flowrate @ 200 ml/min
0930	5.00	8.21	6.59	378	102	-528	1.51	
0940	7.00	8.28	6.56	448	104	-448	3.98	
0950	9.00	8.31	6.54	463	105	-388	5.62	
1000	11.00	8.25	6.51	394	105	-231	7.78	
1010	13.00	8.32	6.49	333	105	-205	9.07	DTW 11.38'
1020	15.00	8.36	6.47	282	105	-159	10.14	Flowrate @ 200 ml/min
1030	17.00	8.44	6.45	241	105	-143	10.87	
1040	19.00	8.51	6.44	232	105	-143	11.31	
1050	21.00	8.52	6.43	194	105	-149	11.65	
1100	23.00	8.39	6.42	158	105	-152	11.35	DTW 11.46'

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): WL101ADECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

LRWS-10, 11/14/97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1110	25.00	8.28	6.42	150	104	-168	12.12	
1120	27.00	8.42	6.42	126	104	-178	12.17	
1130	29.00	8.54	6.41	119	105	-175	12.34	
1140	31.00	8.53	6.40	110	105	-175	12.52	
1150	33.00	8.43	6.40	104	104	-190	12.61	
1200	35.00	8.50	6.40	87.8	104	-203	12.63	
1210	37.00	8.34	6.40	88.2	104	-201	12.61	
1220	39.00	8.35	6.40	71.5	104	-202	12.58	Compressor stops at 40 L
1250	41.00	8.15	6.38	84.3	104	-230	12.39	Flow rate @ 150 ml/min.
1300	42.50	8.62	6.44	86.2	106	-236	11.14	DTW: 11.46'
1310	44.00	8.79	6.42	88.4	106	-202	11.39	
1320	45.50	8.74	6.42	82.6	106	-201	11.73	Control box battery dies @
1330	47.00 46.00	7.34	6.43	80.6	102	-224	12.05	46L., Flow rate for new
1340	47.50	8.22	6.41	83.2	105	-236	11.85	control box 150 ml/min.
1350	49.00	8.54	6.44	84.6	106	-256	11.46	DTW 11.45'
1400	50.50	8.62	6.43	78.0	106	-220	11.60	
1410	52.00	8.64	6.42	77.4	106	-222	11.81	
1420	53.50	8.53	6.42	72.8	106	-224	12.02	
1430	55.00	8.48	6.42	76.1	105	-227	12.07	DTW 11.44'

Sample @ 1430

pH Readings TOC H_2SO_4 = 2.0
 VIX/MTBE/KCl = 2.0
 EDB Na_2SO_3 = 6.0
 NEPA/NO₃ = 2
 CN $NaOH$ = 11
 Phos/Nit-NO₃ (H_2SO_4) = 2

Compressor DO = 6 mg/L

TURBIDITY PRIOR TO METALS COLLECTION 73.2 NTUS

PROJECT NUMBER: 313000103 LOCATION: MMR DATE: 16 OCT 97
 WELL NO. 95-6 CLIMATIC CONDITIONS: overcast, windy TIME: 1340
55°F
 REMARKS: ~20-25' extra tubing SAMPLER: OA/RP/KO

WELL PURGING:

STATIC WATER LEVEL: 20.02 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: _____ gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: bladder slow flow PUMPING RATE: 250 ml/min ml/min.

WELL PURGE DATA:

TIME DATE	GALLONS L REMOVED	TEMP	pH	COND.	TURBIDITY	OLD COLOR	DO	COMMENTS
1450	3	12.97	6.69	70	117.4	-320	0.45	DTW 20.00' TOC
1455	4.25	12.69	6.74	70	187.5	-262	0.72	
1500	5.50	12.20	6.64	68	233	-227	1.70	dk Brown color
1510	8.00	12.16	6.51	68	223	-177	2.54	DTW 20.00' TOC
1520	10.50	11.83	6.40	66	200	-105	4.07	
1540	15.50	11.46	6.30	64	176	-10.3	5.61	
1600	19.50 25.5	11.34	6.25	63	154	36.5	6.25	
1620	24.5 25.5	11.30	6.22	62	140	58.8	6.71	
1640	30.5	11.22	6.20	62	130	71.2	6.95	DTW 20.00' TOC
1700	35.5	10.93	6.17	60	115	87.6	7.14	

Colorimetric DO = 5 mg/L

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-340 ml (HCL); EDB-340 ml (H₂SO₄);
MTBE-340 ml (HCL); TOC-240 ml (H₂SO₄); SVOC-2 LIL AMBER; PCB/PEST-2 LIL AMBER;

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: HERB-2 LIL AMBER; ERP-2 LIL AMBER; ALK-1 LIL AMBER;

CN-1 L POLY (NaOH); NO₂/NO₃-1 L POLY (H₂SO₄); T METALS 1 L POLY (HNO₃); DI METALS 1 L POLY (HNO₃)

SAMPLE ID NUMBER(S): W9506A / W9506L

DECON METHOD: ALCOHOL WASH; DI RINSE; METH RINSE; DI RINSE

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

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ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>10 FEB 98</u>				
WELL No.: <u>95-14</u>		CLIMATIC CONDITIONS: <u>Sunny clear</u>		TIME: <u>0935</u>				
REMARKS: <u>EXP (8330) on ly</u>		SAMPLER: <u>CH/JD</u>						
WELL PURGING:		STATIC WATER LEVEL: <u>10.48</u> ft		WELL DEPTH: _____ ft				
LENGTH OF SATURATED ZONE: _____								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = <u>NA</u> gals.								
REMOVAL METHOD: <u>Bladder slow flow</u> PUMPING RATE: <u>200</u> ml/min.								
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
<u>0840</u>	<u>0</u>	<u>8.21</u>	<u>8.38</u>	<u>33.8</u>	<u>54</u>	<u>-389</u>	<u>3.32</u>	<u>200 ml/min 10.48</u>
<u>0850</u>	<u>2.0</u>	<u>8.17</u>	<u>8.92</u>	<u>15.4</u>	<u>53</u>	<u>-441</u>	<u>0.71</u>	
<u>0800</u>	<u>4.0</u>	<u>8.13</u>	<u>8.21</u>	<u>8.27</u>	<u>52</u>	<u>-322</u>	<u>3.15</u>	
<u>0810</u>	<u>6.0</u>	<u>8.09</u>	<u>7.81</u>	<u>6.44</u>	<u>52</u>	<u>-282</u>	<u>4.05</u>	
<u>0820</u>	<u>8.0</u>	<u>8.20</u>	<u>7.97</u>	<u>4.25</u>	<u>52</u>	<u>-210</u>	<u>5.76</u>	
<u>0825</u>	<u>9.0</u>	<u>8.24</u>	<u>7.79</u>	<u>3.02</u>	<u>52</u>	<u>-178</u>	<u>6.57</u>	
<u>0830</u>	<u>10.0</u>	<u>8.30</u>	<u>7.15</u>	<u>2.41</u>	<u>52</u>	<u>-159</u>	<u>6.84</u>	<u>200 ml/min 10.50</u>
<u>0835</u>	<u>11.0</u>	<u>8.35</u>	<u>7.04</u>	<u>2.27</u>	<u>52</u>	<u>-145</u>	<u>6.99</u>	
<u>0840</u>	<u>12.0</u>	<u>8.38</u>	<u>7.04</u>	<u>2.00</u>	<u>52</u>	<u>-134</u>	<u>7.07</u>	
<u>0845</u>	<u>13.0</u>	<u>8.36</u>	<u>7.10</u>	<u>1.91</u>	<u>52</u>	<u>-124</u>	<u>7.11</u>	
<u>0850</u>	<u>14.0</u>	<u>8.36</u>	<u>7.13</u>	<u>1.79</u>	<u>52</u>	<u>-115</u>	<u>7.14</u>	
<u>0855</u>	<u>15.0</u>	<u>8.43</u>	<u>7.18</u>	<u>1.65</u>	<u>52</u>	<u>-106</u>	<u>7.17</u>	
<u>0910</u>	<u>16.0</u>	<u>8.45</u>	<u>7.21</u>	<u>1.59</u>	<u>52</u>	<u>-98</u>	<u>7.22</u>	
SAMPLE WITHDRAWAL METHOD: <u>BLADDER PUMP</u>								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: <u>VOC (HCl), EDB (H₂S₂O₃), MTBE (HCl),</u>								
<u>TOC (H₂SO₄), SVOC (None), EXP (None), Herb (None), PCB/Pest (None), Alk (None), CN (NaOH), NO₂/NO₃ (H₂SO₄), Metals (HNO₃)</u>								
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: <u>40 ml; 2 1 L Amber; 1 L Poly</u>								
SAMPLE ID NUMBER(S): <u>W9514A</u>								
DECON METHOD: <u>Liquidnox wash; DI rinse; Methonal Rinse; DI rinse</u>								
PURGE WATER DISPOSED OF IN DRUM NUMBER: <u>DECON GAS SYSTEM</u>								
SAMPLES DELIVERED TO: <u>ITS</u> TRANSPORTER: _____								
DATE: _____ TIME: _____								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.05, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.07								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								

[illegible]

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 10/17/97

WELL NO. 95-15 CLIMATIC CONDITIONS: clear, breezy, 55°F TIME: 950

REMARKS: _____ SAMPLER: CH/PP/KC

WELL PURGING:

STATIC WATER LEVEL: 45.55 ft. WELL DEPTH: 118.85 ft.

LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
<u>1013</u>	<u>9.71</u>	<u>6.61</u>	<u>113</u>	<u>43</u>	<u>-370.6</u>	<u>1.47</u>	<u>250</u>		
<u>1020</u>	<u>9.7</u>	<u>6.78</u>	<u>136</u>	<u>45</u>	<u>-386.7</u>	<u>0.88</u>	<u>250</u>		<u>1.7 L purged</u>
<u>1030</u>	<u>9.56</u>	<u>6.86</u>	<u>170.4</u>	<u>47</u>	<u>-390.4</u>	<u>0.55</u>	<u>250</u>		<u>4.25 "</u>
<u>1040</u>	<u>9.58</u>	<u>6.86</u>	<u>273</u>	<u>49</u>	<u>-426.3</u>	<u>0.38</u>	<u>250</u>		<u>6.75 "</u>
<u>1050</u>	<u>9.64</u>	<u>6.79</u>	<u>335</u>	<u>57</u>	<u>-343.8</u>	<u>1.01</u>	<u>250</u>		<u>9.25 "</u>
<u>1100</u>	<u>9.66</u>	<u>6.77</u>	<u>230</u>	<u>60</u>	<u>-239.7</u>	<u>2.65</u>	<u>250</u>		<u>11.75 "</u>
<u>1110</u>	<u>9.66</u>	<u>6.77</u>	<u>271</u>	<u>60</u>	<u>-188.8</u>	<u>3.51</u>	<u>250</u>		<u>14.25 "</u>
<u>1120</u>	<u>9.63</u>	<u>6.78</u>	<u>315</u>	<u>60</u>	<u>-106.5</u>	<u>4.45</u>	<u>250</u>		<u>16.75 "</u>
<u>1130</u>	<u>9.62</u>	<u>6.78</u>	<u>315</u>	<u>60</u>	<u>-51.3</u>	<u>5.03</u>	<u>250</u>		<u>19.25 "</u>

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L poly

SAMPLE ID NUMBER(S): W9515A, W9515L, W9515E

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

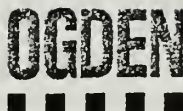
SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER: _____

DATE: _____ TIME: _____

COLORIMETRIC DO = 5PPM

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 19 Nov 97
WELL No.: 92-1 CLIMATIC CONDITIONS: Clear, 35°F TIME: 0900
REMARKS: DUPLICATE COLLECTED no wind SAMPLER: CH/A/B

WELL PURGING: STATIC WATER LEVEL: 21.23 ft TOC WELL DEPTH: ft.

LENGTH OF SATURATED ZONE: VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0905	0	7.99	6.42	92.4	10.00	287	13.37	
0910	0.5	8.63	5.98	160.5	58	332	13.55	
0915	1.0	8.60	6.00	154.6	69	337	13.91	
0920	1.5	8.71	6.02	140.2	76	341	14.01	
0925	2.0	8.84	6.04	108.1	79	345	14.12	100 ml/min
0930	2.5	8.80	6.04	87.2	80	348	14.23	
0940	3.5	8.88	6.04	58.9	82	353	14.34	
0950	4.5	9.24	6.04	47.7	83	356	14.40	
1000	5.5	9.53	6.04	39.5	85	359	14.43	
1010	6.5	9.69	6.04	44.0	85	359	14.44	
1020	7.5	9.93	6.04	37.7	84	358	14.45	100 ml/min
1030	8.5	9.86	6.04	31.0	86	360	14.42	

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOWLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 22 40 ml; 18 1 L Amber; 3 1 L PolySAMPLE ID NUMBER(s): CH 099-09701A; 09701C; 09701D; 097106DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITSTRANSPORTER: DATE: TIME:

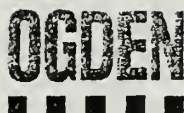
CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²hSaturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)

19 Nov 97

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1040	9.5	9.45	6.04	25.5	85	367	14.50	WATER METRIC UNRELIABLE
1050	10.5	9.43	6.03	22.9	84	370	14.51	
1100	11.5	9.39	6.03	21.9	83	373	14.59	100 ml/min
1110	12.5	9.74	6.03	18.30	84	370	14.55	
1120	13.5	9.93	6.03	15.70	85	371	14.56	
1130	14.5	10.04	6.03	14.70	85	371	14.51	100 ml/min
1140	15.5	10.03	6.03	7.46	85	375	14.59	
1150	16.5	10.35	6.03	7.38	87	371	14.56	
1200	17.5	10.49	6.03	7.37	87	373	14.54	
1205	18.0	10.68	6.03	6.10	88	372	14.54	
1210	18.5	10.46	6.03	5.54	88	373	14.62	
1215	19.00	10.65	6.03	4.74	88	373	14.61	
TURBIDITY PRIOR TO COLLECTING METALS = 3.8 NTU'S								
COLORIMETRIC DO = 10 mg/L								



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 19 Nov 97
WELL No.: MW 97-2 CLIMATIC CONDITIONS: overcast TIME: 1530
REMARKS: _____ SAMPLER: CH/AG

WELL PURGING: _____ STATIC WATER LEVEL: 21.91 ft. WELL DEPTH: 1530 ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1531	0	9.00	6.50	5.31	81	375	14.31	100 ml/min
1540	1.0	9.20	6.01	7.00	75	400	13.92	
1545	1.5	9.27	6.05	5.05	75	403	13.64	
1550	2.0	9.43	6.09	4.30	76	407	13.42	
1555	2.5	9.60	6.10	3.50	74	406	13.31	
1600	3.0	9.72	6.09	3.12	74	407	13.26	
1605	3.5	9.77	6.11	3.60	74	405	13.34	DTW 21.91' TOC
1610	4.0	9.80	6.13	3.12	74	405	13.34	100 ml/min
1615	4.5	9.61	6.15	1.75	65	406	13.61	
0725	4.5	8.38	6.17	22.5	75	301	14.52	20 Nov 97 DTW 21.93
0735	5.5	7.96	6.42	65.5	81	344	13.97	100 ml/min
0745	6.5	7.20	6.26	66.0	78	366	13.89	

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOWLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): W9702A; W9702LDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	ms/cm COND.	mV ORP	mg/L DO	COMMENTS
0750	7.0	7.14	6.23	57.2	78	366	13.84	
0800	8.0	7.30	6.23	40.9	79	368	13.85	
0810	9.0	7.70	6.25	24.2	80	369	13.54	
0820	10.0	8.00	6.25	15.0	81	369	13.50	
0830	11.0	8.34	6.25	7.45	81	370	13.45	100 ml/min
0840	12.0	8.67	6.24	4.69	82	371	13.46	
0845	12.5	8.74	6.26	2.64	82	372	13.47	DTW 21.92' TO
0850	13.0	8.84	6.26	2.77	82	372	13.45	
0855	Collect sample							
	Colorimetric DO = 10 mg/L							
	TURBIDITY PRIOR TO WASTES COLLECTION = 2.08							



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 21 Nov 97
WELL No.: MW97-3 CLIMATIC CONDITIONS: clear, 30°F TIME: 0700
REMARKS: Turbidity & METALS (collection) = 0.97 mg/L SAMPLER: CH/AB

WELL PURGING: _____ STATIC WATER LEVEL: 38.73 ft WELL DEPTH: _____ ft
LENGTH OF SATURATED ZONE: _____
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0705	0.75	8.5	6.42	4.74	121	248	17.38	17.5 ml/min
0710	1.75	8.37	6.13	1.28	119	275	16.05	100 ml/min
0715	2.75	8.23	5.94	1.35	112	258	16.19	
0720	3.75	8.37	5.86	1.32	115	274	17.22	
0725	4.75	8.47	5.76	1.64	120	304	17.92	
0730	5.75	8.44	5.74	1.35	125	315	17.99	
0735	6.75	8.24	5.74	1.30	128	320	18.09	
0740	7.75	7.93	5.71	1.13	131	326	18.21	
0745	8.75	7.55	5.5	0.84	131	328	18.20	
0750	9.75	7.50	5.69	0.69	131	330	18.34	Dist. 38.71' for
0755	10.75	7.50	5.70	0.66	131	331	18.37	
0800 - collect sample								
Colorimetric DO = 8.9 mg/L								

SAMPLE WITHDRAWAL METHOD: BLADDER SLOW FLOWLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L PolySAMPLE ID NUMBER(s): W9703A; W9703LDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 5-29-98
WELL No.: 97-3 CLIMATIC CONDITIONS: Sunny Temp 80°F TIME: 1350
REMARKS: _____ SAMPLER: BG/SH

WELL PURGING: _____ STATIC WATER LEVEL: 18.14 ft. WELL DEPTH: NM ft.
LENGTH OF SATURATED ZONE: NM

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 175 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	Pumping Rate	COMMENTS
1412	0	15.32	7.54	1.86	0.042	104.9	13.64	175	DTW NM
1417		13.29	6.87	10.88	0.051	155.4	14.16	"	18.16
1422		12.64	6.68	7.28	0.051	179.2	14.16	"	"
1427		12.33	6.59	5.79	0.050	186.1	13.69	"	"
1432		12.09	6.55	4.73	0.050	190.0	13.42	"	"
1437		11.94	6.52	3.51	0.050	184.8	13.21	"	"
1442		11.88	6.48	2.46	0.049	198.8	13.20	"	"
1447		11.84	6.45	2.04	0.049	203.1	13.09	"	"
1452		11.69	6.43	1.77	0.049	206.0	13.13	"	"
1457		11.72	6.42	1.67	0.049	206.7	13.17	"	"

SAMPLE WITHDRAWAL METHOD: _____

Sample @ 1500

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 3 1 L Amber; 1 L Poly

Sample # WPH1A

SAMPLE ID NUMBER(s): _____

Colorimetric D.O. - 10 ppm

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: _____ TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.37

Well Screen Volume = 0.041(d)²h

Saturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 10/20/97
 WELL NO. MW97-5 CLIMATIC CONDITIONS: overcast, breezy TIME: 1100
 REMARKS: 40°F SAMPLER: CHAR

WELL PURGING: STATIC WATER LEVEL: 7.95 ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
1110	8.77	6.17	13.59	80	383	13.54	100		
1115	8.88	6.14	21.06	80	385	13.63			0.5 gal. purged
1120	9.07	6.10	52.5	82	387	13.85			1.0
1130	9.24	6.05	155.7	84	393	14.0			2.0
1140	9.29	6.04	200	84	397	14.03	250	0	3.0
1150	9.59	6.04	179.8	85	397	14.07			5.5
1200	9.66	6.03	210	85	397	14.05			8.0
1210	9.85	6.03	198	86	398	14.09	300		11.0
1220	9.76	6.03	214	85	403.4	14.15			14.0

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L poly

SAMPLE ID NUMBER(S): W9705A, W9705L

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER: _____

DATE: _____ TIME: _____

COULOMETRIC DO = 10 ppm

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 18 Feb 98
WELL No.: RW-1 CLIMATIC CONDITIONS: overcast, 45°F TIME: 1235
REMARKS: lt drizzle SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 44.15 ft. WELL DEPTH: ~68 ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1240	0	10.24	6.77	74.4	41	154	15.70	100 ml/min DTU4530
1250	1.0	9.42	6.71	35.6	50	175	17.16	
1300	2.0	9.04	6.73	25.2	51	182	17.04	
1310	3.0	8.99	6.68	23.7	52	189	17.22	100 ml/min
1320	4.0	8.99	6.63	12.1	53	195	17.01	
1325	4.5	9.02	6.61	9.63	53	197	16.97	
1330	5.0	9.05	6.59	7.23	53	200	16.85	
1335	5.5	9.05	6.59	6.89	53	201	16.77	
1340	6.0	9.05	6.55	6.06	54	203	16.75	100 ml/min DTU4529
1345	6.5	9.04	6.52	5.61	54	206	16.70	
1350	7.0	9.04	6.51	5.19	54	207	16.63	
1355	7.5	9.04	6.48	4.52	54	210	16.57	
1400	8.0	9.04	6.46	4.01	55	212	16.47	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pumpLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 2 1 L Amber; 4 1 L PolyColimetric DO = 10 mg/L @ 1415Final Turbidity = 1.15 NTUSAMPLE ID NUMBER(S): ER=WRWIXE, Sample=WRWIXA/WRWIXLDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC SystemSAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 3/10/98
 WELL NO. RW3 (GWS) CLIMATIC CONDITIONS: clear, 35°F TIME: 900
 REMARKS: _____ SAMPLER: KD/SD

WELL PURGING: STATIC WATER LEVEL: 63.32 ft. WELL DEPTH: 284.8 ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ NA gals.
 REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
<u>920</u>	<u>10.84</u>	<u>6.73</u>	<u>830</u>	<u>68</u>	<u>129.1</u>	<u>24.45</u>	<u>100</u>	<u>0</u>	<u>0.6 purged</u>
<u>930</u>	<u>10.70</u>	<u>6.62</u>	<u>540</u>	<u>68</u>	<u>140.4</u>	<u>24.71</u>	<u>200</u>	<u>0</u>	<u>1 "</u>
<u>950</u>	<u>10.13</u>	<u>6.41</u>	<u>256</u>	<u>66</u>	<u>163.0</u>	<u>24.84</u>	<u>200</u>	<u>0</u>	<u>5 "</u>
<u>1010</u>	<u>9.78</u>	<u>6.37</u>	<u>170</u>	<u>65</u>	<u>173.3</u>	<u>24.69</u>	<u>200</u>	<u>0</u>	<u>9 "</u>
<u>1030</u>	<u>9.70</u>	<u>6.36</u>	<u>144</u>	<u>64</u>	<u>178.8</u>	<u>24.53</u>	<u>200</u>	<u>0</u>	<u>13 "</u>
<u>1050</u>	<u>9.51</u>	<u>6.34</u>	<u>138</u>	<u>64</u>	<u>183.5</u>	<u>24.75</u>	<u>200</u>	<u>0</u>	<u>17 "</u>
<u>1110</u>	<u>9.66</u>	<u>6.34</u>	<u>134</u>	<u>64</u>	<u>186.1</u>	<u>24.60</u>	<u>200</u>	<u>0</u>	<u>21 "</u>
<u>1130</u>	<u>9.79</u>	<u>6.34</u>	<u>125</u>	<u>63</u>	<u>188.3</u>	<u>24.54</u>	<u>300</u>	<u>0</u>	<u>27 "</u>
<u>1150</u>	<u>9.55</u>	<u>6.35</u>	<u>119</u>	<u>63</u>	<u>191.4</u>	<u>24.66</u>			<u>33 "</u>

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L poly

SAMPLE ID NUMBER(S): WRW3XE, WRW3XA, WRW3XL

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER: _____

DATE: _____ TIME: _____

COLOIMETRIC DO = 9 ppm, FINAL TURBIDITY = 29.5 NTUs

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA WELL: RL03

[illegible]

FS-14

mw0003

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 25 FEB 98

WELL No.: FS14M03 CLIMATIC CONDITIONS: dr, 33k, 40, windy TIME: 1130

REMARKS: _____ SAMPLER: C4/IN

WELL PURGING: _____ STATIC WATER LEVEL: 158.38 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1155	0.0	8.99	6.44	78.1	90	116.9	17.93	200.1/1m 158.37
1205	2.0	8.95	6.08	23.7	87	207	15.97	+100.2/1m
1215	3.0	8.12	6.03	12.7	87	216	16.39	
1225	4.0	8.80	6.05	36.4	86	221	14.98	
1235	5.0	8.51	6.18	23.5	83	217	15.21	
1245	6.0	9.38	6.07	18.7	90	224	15.84	
1255	7.0	8.48	6.15	24.4	90	222	17.51	ECU.0 BOUND
1310	8.0	8.16	6.20	24.0	91	220	15.68	
1320	9.0	8.03	6.12	8.89	91	224	16.11	100.2/1m 158.40
1330	10.0	8.41	5.98	5.25	91	233	16.55	
1335	10.5	8.89	5.91	6.40	92	238	16.05	
1340	11.0	8.55	6.09	16.48	92	232	14.78	
1350	12.0	8.53	6.27	14.16	92	226	14.66	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): SR = WF143E - collected 23 Feb 98; SAMPLE = WF143A/WF143L

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAS SYSTEM

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

[illegible]



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 9 JAN 98
 WELL No.: MW60 CLIMATIC CONDITIONS: 45°F, Vgining, N breeze TIME: _____
 REMARKS: _____ SAMPLER: CH/BH

WELL PURGING: _____ STATIC WATER LEVEL: 34.85 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0930	0	9.49	5.38	1210.1	132	351	2.51	100 ml/min DTW 34.86
0935	0.5	9.55	6.19	43.8	152	329	1.43	
0940	1.0	9.57	6.51	63.4	169	314	1.20	
0950	2.0	9.16	6.76	74.8	176	281	0.63	
1000	3.0	8.81	6.85	42.4	178	247	0.10	DTW 34.86 100 ml/min
1010	4.0	9.31	6.94	48.4	181	206	-0.12	Baro pressure affected
1020	5.0	9.37	6.99	34.8	181	171	-0.16	
1030	6.0	9.39	7.01	27.4	181	143	-0.18	
1040	7.0	9.41	7.03	21.5	180	120	-0.20	DTW 34.85/100 ml/min
1050	8.0	9.49	7.04	17.8	180	100	-0.21	
1100	9.0	9.53	7.07	15.4	180	85	-0.22	
1110	10.0	9.44	7.08	13.2	180	73	-0.70	
1120	11.0	9.41	7.09	11.4	181	60.7	-0.67	

SAMPLE WITHDRAWAL METHOD: Bladder Slow Flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): WT 360F
WT 12360A / WT 360L

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

9 JAN 98

Pressure



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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03MWO122A

PROJECT NUMBER:	3-3100-0103	LOCATION:	MMR	DATE:	28 JAN 98			
WELL No.:	WS-122A	CLIMATIC CONDITIONS:	overcast, windy 36°F	TIME:	0930			
REMARKS:								
WELL PURGING:	STATIC WATER LEVEL:		75.95	ft.	WELL DEPTH:	ft.		
LENGTH OF SATURATED ZONE:								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES =						NA	gals.	
REMOVAL METHOD:		Bladder slow flow		PUMPING RATE:		100	ml/min.	
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0935	0	4.89	8.01	0.86	94	85.2	13.43	75.96' 100ml/min
0945	1.0	4.67	7.76	10.7	16	135	18.77	
0955	2.0	5.01	5.97	69.0	32	231	23.70	↑ 200ml/min 75.95
1005	4.0	5.47	5.69	42.6	43	267	23.54	
1015	6.0	6.26	5.63	31.7	46	283.5	23.16	
1025	8.0	6.29	5.58	28.6	46	298	23.20	
1035	10.0	6.39	5.56	22.3	47	308	23.13	
1045	12.0	6.44	5.54	16.7	47	317	23.23	
1055	14.0	6.46	5.53	14.5	48	326	23.51	
1105	16.0	6.22	5.53	15.9	48	332	23.02	
1115	18.0	6.17	5.53	11.7	48	334	22.68	
1125	20.0	6.12	5.52	9.74	48	343	21.60	
1135	22.0	6.24	5.53	7.32	47	347	18.91	200ml/min 75.95
SAMPLE WITHDRAWAL METHOD:								Bladder pump
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:								VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl); TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED:								11 40 ml; 9 1 L Amber; 4 1 L Poly
SAMPLE ID NUMBER(S):								ER = WS122E; SAMPLE = WS122A 122L
DECON METHOD:								Liquidnox wash; DI rinse; Methonal Rinse; DI rinse
PURGE WATER DISPOSED OF IN DRUM NUMBER:								DECON GAC SYSTEM
SAMPLES DELIVERED TO:								JTS
TRANSPORTER:								
DATE:								
TIME:								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								



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MW-122A

28 JAN 98

LITERS

TIME	REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1135	24	6.32	5.54	5.65	47	351	16.93	↓ 100ml/min
1155	25	6.06	5.55	9.56	49	355	15.04	
1200	25.5	5.82	5.55	9.20	49	354	14.36	
1205	26.0	5.54	5.57	3.50	49	357	13.66	
1210	26.5	5.40	5.57	3.45	50	359	12.67	

SAMPLE @ 1215

COCHROMETRIC DO = 8 mg/L

TURB PPDOR TO METALS = 4.10 NTU



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 4 JAN 98
 WELL No.: MW 604A CLIMATIC CONDITIONS: overcast 11/12/97, Windy, 50° TIME: _____
 REMARKS: _____ SAMPLER: CH/R

WELL PURGING: _____ STATIC WATER LEVEL: 55.37 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1310	0	10.55	4.35	4.00	97	335	3.25	
1315	0.5	10.52	5.21	2.00	102	326	3.04	DTW 5536' TO
1320	1.0	10.49	5.22	4.20	118	322	2.27	100 ml/min
1325	1.5	10.48	5.29	4.00	122	323	4.20	
1330	2.0	10.45	5.41	1.30	124	327	5.51	
1335	2.5	10.63	5.48	2.0	125	330	6.41	100 ml/min 55.37
1340	3.0	10.58	5.52	2.2	121	333	8.09	
1345	3.5	10.55	5.57	1.9	121	336	8.04	
1350	4.0	10.53	5.62	1.6	120	340	8.09	
1355	4.5	10.50	5.66	1.2	120	343	8.00	
1400 - Collect Sample								
Colorimetric DO = 8 mg/L								

SAMPLE WITHDRAWAL METHOD: bladder slow flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 3 1 L Poly

SAMPLE ID NUMBER(s): WT34A7, WT34A8, WT34A9

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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15WT0711

PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 28 Jan 98				
WELL No.: WT 711		CLIMATIC CONDITIONS: Cloudy, high winds		TIME: 1530				
REMARKS: Sdt w/ TRC (TRC collects MSLMSO)		SAMPLER: CH/JN						
WELL PURGING:		STATIC WATER LEVEL: 107.50 ft.		WELL DEPTH: ft.				
LENGTH OF SATURATED ZONE: -								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.								
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100 ml/min ml/min.						
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1535	0	6.61	6.54	5.94	134	172	25.44	100 ml/min 107.51
1545	1.0	6.91	5.88	3.78	111	240	22.50	
1550	1.5	6.90	5.81	3.66	113	251	22.20	
1555	2.0	7.01	5.74	3.37	110	265	22.01	
1600	2.5	7.00	5.70	3.11	123	277	21.72	
1605	3.0	7.06	5.68	2.91	119	285	21.56	100 ml/min
1610	3.5	7.00	5.67	2.57	125	293	22.07	
1615	4.0	7.00	5.66	2.81	115	299	22.06	
1620	4.5	7.04	5.65	2.22	96	305	21.46	
1625	5.0	7.07	5.65	2.13	90	310	21.49	
1630	5.5	7.04	5.65	1.97	93	314	21.57	END of DAY 28 JAN
0800	6.0	6.89	5.66	1.48	92	272	37.18	START 29 JAN 98
0805	6.5	6.85	5.65	0.72	85	289	37.40	100 ml/min
SAMPLE WITHDRAWAL METHOD: Bladder pump								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl);								
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly								
SAMPLE ID NUMBER(s): WT 711A / WT 711E								
DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse								
PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAC SYSTEM								
SAMPLES DELIVERED TO: ITS								
TRANSPORTER:								
DATE:								
TIME:								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								



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WT 711

29 JAN 98

TIME	LITERS REMOVED	3% TEMP	±.1 pH	TURBIDITY	3% COND.	±10mv ORP	10% mg/L DO	COMMENTS
0810	7.0	7.02	5.63	0.64	82	299	21.88	
0815	7.5	7.01	5.60	0.45	85	311	13.23	
0820	8.0	6.94	5.59	0.19	85	318	9.13	
0825	8.5	7.01	5.59	0.27	85	326	5.99	
0830	9.0	6.99	5.58	0.25	87	331	4.12	100 ml/m DTW 67.51
0835	9.5	6.85	5.58	0.24	88	337	2.64	
0840	10.0	6.96	5.58	0.58	87	341	1.88	
0845	10.5	6.95	5.58	0.54	87	345	1.33	
0850	11.0	6.90	5.58	0.35	88	348	1.10	
0855	11.5	6.88	5.58	0.30	88	352	0.89	

0900 - COLLECT SAMPLE

COLORIMETRIC DO = 9 mg/L

11% Turbidity = 0.31 NTUs

15WT0712

PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 29 JAN 98			
WELL No.: WT 712		CLIMATIC CONDITIONS: misty rain, windy		TIME: 4:00 P			
REMARKS:		SAMPLER: CH/JD					
WELL PURGING:		STATIC WATER LEVEL: 115.84 ft		WELL DEPTH: ft			
LENGTH OF SATURATED ZONE: -							
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.							
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100		ml/min.			
WELL PURGE DATA:							
TIME	LITERS REMOVED	TEMP °C	pH	TURBIDITY	COND.	DO	COMMENTS
1455	0	8.44	5.52	3.56	47	26.14	100 ml/min - 115.86
1505	1.0	8.49	5.63	3.87	48	20.36	
1515	2.0	8.65	5.66	5.25	49	17.03	
1525	3.0	8.77	5.67	4.54	50	15.01	
1535	4.0	8.77	5.66	4.18	49	13.33	
1545	5.0	8.87	5.65	3.03	49	11.82	
1555	6.0	8.87	5.65	2.25	50	10.70	END OF DAY 29 JAN 98
0740	7.0	8.26	5.66	1.44	66	38.83	100 ml/min DW 115.87
0750	8.0	8.64	5.61	3.42	54	33.64	
0755	8.5	8.76	5.59	2.59	52	32.85	
0800	9.0	8.76	5.60	2.53	52	32.74	
0805	9.5	8.84	5.59	2.45	51	32.71	
0810	10.0	8.81	5.59	2.33	51	31.54	100 ml/min 115.90
SAMPLE WITHDRAWAL METHOD: BLADDER PUMP							
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl); TCC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)							
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly							
SAMPLE ID NUMBER(S): WT 712A / WT 712E; ER = WT 712E							
DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse							
PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAC SYSTEM							
SAMPLES DELIVERED TO: ITS							
TRANSPORTER:							
DATE:							
TIME:							
CASING CAPACITY (gallons/linear foot)							
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87							
Well Screen Volume = 0.041(d) ² h							
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)							

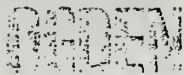
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28 MW0106

GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 19 Feb 98
 WELL No.: MW 106 CLIMATIC CONDITIONS: 14 d, 33 h - 45° F TIME: 0855
 REMARKS: No metals collected SAMPLER: CH/JD

WELL PURGING: STATIC WATER LEVEL: 53.77 ft. WELL DEPTH: ft.

LENGTH OF SATURATED ZONE: VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0715	0	8.07	6.51	17.2	31	45	15.72	100 g/min
0728	1.0	10.02	5.80	23.7	72	-0.7	4.36	
0935	2.0	9.76	5.75	18.3	74	-6.4	3.38	100 g/min
0945	3.0	9.52	5.67	13.8	75	-8.2	2.89	
0955	4.0	9.62	5.69	7.85	75	-13.2	2.70	
1000	4.5	9.60	5.68	7.40	75	-13.5	2.70	
1005	5.0	9.51	5.68	6.84	75	-13.7	2.65	
1010	5.5	9.64	5.67	5.83	74	-14.2	2.63	
1015	6.0	9.61	5.68	5.43	74	-15.1	2.64	
1020	6.5	9.58	5.68	5.20	74	-15.0	2.62	
1025	7.0	9.58	5.67	4.43	74	-15.3	2.60	
1030	7.5	9.60	5.67	4.03	74	-16.0	2.55	
1035	8.0	9.63	5.68	3.74	74	-16.1	2.57	

SAMPLE WITHDRAWAL METHOD: Bladder PumpLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 2 1 L Poly

SAMPLE ID NUMBER(S): ER = WL28XE; Sample = WL28XA - No metals collected
per MARCHANT FOR BACK GROUND WATER

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: ITS DECON GAC SYSTEMSAMPLES DELIVERED TO: ITSTRANSPORTER: DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

Collect Sample @ 1045
 Colorimetric DO = 1.5 mg/L @ 1100



GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: <u>3-3100-0103</u>		LOCATION: <u>MMR</u>		DATE: <u>06/09/8</u>	
WELL No.: <u>MW-3</u>		CLIMATIC CONDITIONS: <u>Sunny 68°</u>		TIME: <u>0820</u>	
REMARKS:				SAMPLER: <u>AEB/SH</u>	

WELL PURGING:		STATIC WATER LEVEL: <u>86.85</u> ft	WELL DEPTH: _____ ft
LENGTH OF SATURATED ZONE: _____			
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.			
REMOVAL METHOD: <u>Bladder slow flow</u>		PUMPING RATE: <u>260</u> ml/min.	

WELL PURGE DATA:								
TIME	LITERS REMOVED	3%	+ .1	TURBIDITY	3%	+10	10%	COMMENTS
		TEMP	pH		COND.	ORP	DO	
<u>0849</u>		<u>10.52</u>	<u>5.86</u>	<u>6.2</u>	<u>81.00</u>	<u>73.3</u>	<u>6.90</u>	
<u>0859</u>		<u>10.15</u>	<u>5.85</u>	<u>2.74</u>	<u>84.00</u>	<u>57.8</u>	<u>3.27</u>	
<u>0904</u>		<u>10.13</u>	<u>5.86</u>	<u>1.71</u>	<u>84.06</u>	<u>53.6</u>	<u>3.75</u>	
<u>0909</u>		<u>10.09</u>	<u>5.86</u>	<u>0.74</u>	<u>84.00</u>	<u>50.6</u>	<u>2.75</u>	
<u>0915</u>		<u>10.04</u>	<u>5.86</u>	<u>0.89</u>	<u>84.00</u>	<u>48.5</u>	<u>2.90</u>	
<u>0922</u>		<u>10.00</u>	<u>5.85</u>	<u>0.18</u>	<u>84.00</u>	<u>47.2</u>	<u>2.69</u>	

SAMPLE WITHDRAWAL METHOD: bladder low flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 2 L Amber; 1 L Poly

SAMPLE ID NUMBER(s): WFM3XA @ 0925
Colorimetric D.O. = <1 ppm

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS TRANSPORTER: FedEx

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.85, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²*h

Saturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)



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GROUND-WATER SAMPLING LOG

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90WT0003

PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 2 FEB 98				
WELL No.: WT-3		CLIMATIC CONDITIONS: partly cloudy, breezy		TIME: 1410				
REMARKS: collect split w/ TRC		45°F		SAMPLER: CH/JD				
WELL PURGING:		STATIC WATER LEVEL: 90.72 ft		WELL DEPTH: ft				
LENGTH OF SATURATED ZONE: -								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.								
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100 ml/min.						
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1415	6	10.2	6.81	1.78	15	161	10.77	100.2 l/min / 90.65 Torr
1425	1.0	9.72	5.74	7.49	28	256	13.00	
1435	2.0	9.62	5.84	3.63	35	299	12.40	
1445	3.0	9.55	5.38	1.55	42	321	12.55	DRS 90.55 100.2 l/min
1455	4.0	9.41	5.36	0.62	45	332	12.95	
1505	5.0	9.62	5.33	0.45	53	344	13.16	
1515	6.0	9.64	5.32	0.49	49	355	13.26	
1525	7.0	9.63	5.31	0.55	51	364	13.26	
1535	8.0	9.64	5.29	0.34	50	372	13.29	
1545	9.0	9.54	5.21	0.14	51	378	13.20	
1555	10.0	9.42	5.27	0.25	47	383	13.27	END OF DAY 2 FEB
0145	11.0	7.63	6.66	0.51	99	202	15.50	FE095 100.2 l/min 17.55
0755	12.0	8.31	5.52	0.82	45	263	14.90	
SAMPLE WITHDRAWAL METHOD: BLANDEIR PUMP								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl);								
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly								
SAMPLE ID NUMBER(s): ER-WF03XE								
DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse								
PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAC SYSTEM								
SAMPLES DELIVERED TO: ITS TRANSPORTER:								
DATE: TIME:								
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.85, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² *h								
Saturated Filter Pack = 0.041[(d1) ² -(d2) ²]h(0.3)								

2 Feb 98

[illegible]

OGDEN

ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

90WT0004 1

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 9 Feb 98

WELL No.: GOMW04 CLIMATIC CONDITIONS: Sunny, 50°F, TIME:

REMARKS: Well labeled WT-4 1t break SAMPLER: CH/JD

WELL PURGING: STATIC WATER LEVEL: 31.69 ft WELL DEPTH: 1330 ft

LENGTH OF SATURATED ZONE:

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 gpm

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1340	0	9.82	5.83	7.11	61	224	12.11	100ml/min
1350	1.0	9.64	5.34	5.78	61	283	12.25	100 ml/min 31.69
1355	1.5	9.47	5.31	4.21	67	296	12.24	
1400	2.0	9.53	5.30	3.55	62	305	12.11	
1405	2.5	9.49	5.29	2.69	63	313	11.24	
1410	3.0	9.56	5.28	2.42	64	320	12.12	
1415	3.5	9.60	5.28	2.79	65	325	11.86	
1420	4.0	9.61	5.28	2.28	65	331	11.79	100 ml/min 31.69
1425	4.5	9.47	5.27	1.71	65	332	11.53	
1430	5.0	9.42	5.27	1.91	65	342	11.50	
1435	5.5	9.35	5.46	1.32	65	346	11.23	
1440	collect sample							
Colorimetric DO = 12mg/L								

SAMPLE WITHDRAWAL METHOD: BLADDER PUMP

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl), EDB (H₂S₂O₃), MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Aik (None); CN (NaOH); NO₂/HNO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 2 L Amber; 1 L Poly

SAMPLE ID NUMBER(S): WT04XA - Sampled Feb EXP (83301.0727)

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER:

DECON GAC SYSTEM

SAMPLES DELIVERED TO: ITS

TRANSPORTER:

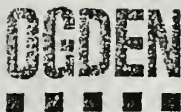
DATE:

TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 6.87

Well Screen Volume = 0.041(d)²hSaturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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700WT0005

PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 13 Jan 98				
WELL No.: WT-5		CLIMATIC CONDITIONS: overcast, windy		TIME: 1045				
REMARKS: no volatiles collected per TRP wells		occasional rain		SAMPLER: CH/ITD				
WELL PURGING:		STATIC WATER LEVEL: 50.17 ft		WELL DEPTH: 60.55 ft				
LENGTH OF SATURATED ZONE: _____								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.								
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100 ml/min						
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1055	0	8.64	5.92	9.34	740	354	15.29	100 ml/min
1100	0.5	8.61	5.77	7.5	79	363	14.23	DTW 50.17
1105	1.0	9.07	5.65	6.42	79	370	14.09	
1110	1.5	9.23	5.58	5.62	79	373	14.07	
1115	2.0	9.25	5.55	5.66	79	375	14.03	100 ml/min
1120	2.5	9.17	5.53	4.74	79	378	14.00	
1125	3.0	9.21	5.51	7.66	79	381	13.97	
1130	3.5	9.25	5.50	6.83	79	383	13.95	DTW 50.16'
1135	4.0	9.34	5.49	4.79	79	384	13.89	
1140	4.5	9.19	5.49	6.26	79	386	13.87	100 ml/min
1145	5.0	9.07	5.48	5.88	79	388	13.86	
1150	5.5	8.49	5.48	5.43	79	390	13.84	
SAMPLE WITHDRAWAL METHOD: Bladder Slow Flow								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl); TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 8 40 ml; 9 1 L Amber; 4 1 L Poly								
No VOCs collected per TRP wells								
SAMPLE ID NUMBER(s): WF05XA / WF05XL; WF05XE for equip rinse								
DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse								
PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System								
SAMPLES DELIVERED TO: ITS								
TRANSPORTER: _____								
DATE: _____								
TIME: _____								
CASING CAPACITY (gallons/linear foot) 2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								

13 Jan 58

4



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

90WT0008

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 1-15-98

WELL No.: WT-8 CLIMATIC CONDITIONS: CLEAR-35°F TIME: 1120

REMARKS: SAMPLER: KD + JD

WELL PURGING: STATIC WATER LEVEL: 58.02 ft WELL DEPTH: ft

LENGTH OF SATURATED ZONE:

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1155	0	6.22	5.01	37.5	53	399	2.54	DTW-58.02'
1205	1	6.75	5.07	35.1	62	400.2	1.62	Flow Rate
1215	2	6.99	5.05	31.2	68	408.2	1.15	100 ml/min
1225	3	6.93	5.04	25.4	69	414.6	1.01	
1235	4	7.00	5.03	21.5	69	419.6	0.89	DTW 58.02'
1245	5	7.12	5.04	17.1	69	423.7	0.81	100 ml/min
1255	6	7.17	5.05	13.6	69	427.2	0.75	
1305	7	7.17	5.05	10.3	70	430.3	0.70	
1315	8	7.34	5.06	8.8	70	432.3	0.66	
1325	9	7.39	5.07	7.0	70	435.1	0.61	
1335	10	7.38	5.07	5.7	70	437.2	0.59	
1345	11	7.54	5.07	5.2	70	439.2	0.56	100 ml/min

SAMPLE WITHDRAWAL METHOD: Slow Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): WTD8XA & WTD8XL

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: GALEN @ DECON PAD

SAMPLES DELIVERED TO: ITS TRANSPORTER:

DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²hSaturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)

CHEMIS-COLORIMETRIC DO-10 PPM



GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

90WTO010

PROJECT NUMBER: 3-3100-0103		LOCATION: MMR		DATE: 16 Jan 98				
WELL No.: WT10		CLIMATIC CONDITIONS: 1+ rain, wind 45°F		TIME: 1300				
REMARKS:		SAMPLER: CH/JD						
WELL PURGING:		STATIC WATER LEVEL: 83.38 ft		WELL DEPTH: UNK ft				
LENGTH OF SATURATED ZONE:								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.								
REMOVAL METHOD: Bladder slow flow		PUMPING RATE: 100ml/min ml/min.						
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1300	0	7.85	5.52	33.4	65	308	1.15	100ml/min DTW 85.38
1310	1.0	7.98	5.53	190	66	318	0.85	
1320	3.0	8.70	5.53	154	68	330	0.68	1200ml/min
1330	5.0	8.74	5.53	112	70	340	0.57	
1340	7.0	8.64	5.52	71.8	71	349	0.52	
1350	9.0	8.64	5.51	54.2	71	356	0.47	
1400	11.0	8.62	5.51	35.3	72	362	0.37	
1410	13.0	8.57	5.50	21.1	72	368	0.35	
1420	15.0	8.51	5.49	13.9	72	372	0.36	
1430	17.0	8.45	5.49	10.72	72	376	0.36	
1440	19.0	8.38	5.49	7.23	72	380	0.35	
1450	21.0	8.52	5.49	5.32	72	384	0.35	
1500	22-	7.89	5.49	3.75	72	387	0.34	100ml/min
SAMPLE WITHDRAWAL METHOD: Low flow bladder pump								
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:						VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl);		
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)								
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED:						11 40 ml; 9 1 L Amber; 4 1 L Poly		
SAMPLE ID NUMBER(s):						WF10XA; WF10XL		
DECON METHOD:						Liquidnox wash; DI rinse; Methonal Rinse; DI rinse		
PURGE WATER DISPOSED OF IN DRUM NUMBER:						DISPOSED OF C DOWN AREA (GX)		
SAMPLES DELIVERED TO: ITS						TRANSPORTER:		
DATE:						TIME:		
CASING CAPACITY (gallons/linear foot)								
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87								
Well Screen Volume = 0.041(d) ² h								
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								

[illegible]

3R
90MTW
90MTW

90WT0013

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 1/16/98
WELL NO. WT13 CLIMATIC CONDITIONS: rain, wind, 40°F TIME: 825
REMARKS: split sample with TRC SAMPLER: CH/SD

WELL PURGING: STATIC WATER LEVEL: 93.92 ft. WELL DEPTH: 102 ft.
LENGTH OF SATURATED ZONE: 9.08 linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
REMOVAL METHOD: Low Flow Bladder PUMPING RATE: ml/min.

WELL PURGE DATA:

TIME DATE 1/16	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
835	7.81	5.5	22.2	24	330	1.04	100		
840	9.09	5.83	42.2	68	362	0.92			0.5 gal. purged
850	9.69	5.88	22.0	74	277	0.62			1.5 "
900	9.68	5.78	12.77	75	263	0.46	100		2.5 "
910	9.68	5.72	11.52	76	256	0.39			3.5 "
920	9.68	5.69	9.11	75	253	0.38			4.5 "
930	9.79	5.69	7.30	75	253	0.37			5.5 "
940	9.66	5.71	7.21	75	254	0.37			6.5 "
950	9.43	5.71	6.14	75	252	0.37			7.5 "

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 8 40 ml; 9 1L amber; 2 1L poly

SAMPLE ID NUMBER(S): WF13XE, WF13XA (no VOC or Metals)

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER:

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER:

DATE: TIME:

colorimetric DO = 4 ppm

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87



GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 6/10/98
 WELL NO. WT19 CLIMATIC CONDITIONS: Sunny, 70°F TIME: 1035
 REMARKS: _____ SAMPLER: AEB/SH

WELL PURGING: STATIC WATER LEVEL: 91.66 ft. WELL DEPTH: 106.6 ft.
 LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

TIME DATE	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
1102	14.9	6.27	20.2	185	10.9	4.33	450		
1108	14.71	6.28	18.2	187	5.7	5.11	450		
1116	15.54	6.28	16.1	187	0.5	3.42	450		
1121	16.0	6.29	15.3	187	-1.5	3.73	450		
1129	16.36	6.29	14.9	186	0.1	4.72	450		
1134	16.66	6.29	14.7	185	-1.1	3.69	450		
1139	17.0	6.28	14.7	185	-1.5	3.24	450		
1146	17.29	6.28	13.7	184	-0.3	1.80	450		
1151	16.22	6.29	13.7	184	6.3	2.11	450		

SAMPLE WITHDRAWAL METHOD: Low Flow Bladder

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
 SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 1L amber; 1L poly

SAMPLE ID NUMBER(S): WF19XA

DECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS Laboratory TRANSPORTER: _____

DATE: _____ TIME: _____

Colorimetric DO = 1 PM

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA WELL: WT19

[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

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90MW0022

PROJECT NUMBER:	3-3100-0103	LOCATION:	MMR	DATE:	13 JAN 98					
WELL No.:	6MW22	CLIMATIC CONDITIONS:	Vainig, 45°F	TIME:	1440					
REMARKS:	no val/t,bs collected		SAMPLER:	CH/JD						
WELL PURGING:	STATIC WATER LEVEL:		32.17	ft	WELL DEPTH:	115	ft			
LENGTH OF SATURATED ZONE:										
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES =							NA	gals.		
REMOVAL METHOD:							Bladder slow flow	PUMPING RATE:	100 ml/min	ml/min.
WELL PURGE DATA:										
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS		
1445	0	9.17	5.63	35.8	61	375	13.90	100 ml/min		
1455	1.0	9.26	5.58	54.3	61	380	13.77			
1505	2.0	9.19	5.57	54.0	61	382	13.03	100 ml/min		
1515	3.0	9.22	5.56	53.1	61	392	12.92			
1525	4.0	9.07	5.59	52.7	61	396	12.85			
1535	5.0	8.97	5.59	50.8	61	399	12.34			
1545	6.0	8.96	5.58	46.1	61	403	12.43			
1555	7.0	8.95	5.58	44.4	60	406	12.69			
1605	8.0	9.19	5.57	42.1	60	409	12.62			
1615	9.0	9.23	5.57	46.2	60	411	12.39	stop 13 min		
740	10.0	9.5	5.63	36.2	59	283.7	13.49	Start 1/14		
745	11.0	6.14	5.61	34.9	59	297.3	16.44	100 ml/min		
SAMPLE WITHDRAWAL METHOD: Bladder s/o. flow										
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: SVOC (HCl), EDB (Na ₂ S ₂ O ₃), MTBE (HCl);										
TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)										
NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 8 40 ml; 9 1 L Amber; 4 1 L Poly										
SAMPLE ID NUMBER(s): no equip vinseth - collected @ WF-5; WF22XA/WF22XB										
DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse										
PURGE WATER DISPOSED OF IN DRUM NUMBER: Disposed at Decon GAC System										
SAMPLES DELIVERED TO: ITS										
TRANSPORTER:										
DATE:										
TIME:										
CASING CAPACITY (gallons/linear foot)										
2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87										
Well Screen Volume = 0.041(d) ² h										
Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)										

[illegible]



ENVIRONMENTAL & ENERGY SERVICES

GROUND-WATER SAMPLING LOG

90ml/0041

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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 060998
WELL No.: MW-41 CLIMATIC CONDITIONS: 70° Sunny TIME: 0848
REMARKS: FS-12 SAMPLER: AB/SH

WELL PURGING: _____ STATIC WATER LEVEL: 88.05 ft. WELL DEPTH: 130 ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = _____ gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 300 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	3% TEMP	7.1 pH	10% TURBIDITY	3% COND.	5.10 ORP	10% DO	COMMENTS
0926		12.54	5.67	46.4	69.00	274.2	16.56	
0937		12.43	5.64	28.5	74.00	303.4	13.63	
0946		11.79	5.62	6.8	79.00	314.3	17.85	
0956		11.82	5.58	20.7	82.00	326.4	22.89	
1002		11.62	5.55	16.7	81.00	334.9	18.62	
1007		11.52	5.55	11.3	81.00	338.9	17.77	16.03 AB 060998
1012		11.46	5.54	8.6	82.00	344.2	16.46	
1017		11.39	5.52	6.61	81.00	348.5	15.88	
1022		11.40	5.54	6.62	81.00	349.6	15.15	
1026		11.41	5.53	6.63	81.00	350.2	14.22	

SAMPLE WITHDRAWAL METHOD: bladder low flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 2 1 L Amber; 1 L Poly

SAMPLE ID NUMBER(s): WF41KA @ 1030

coliform DO = 10 ppm (mg/L)

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS

TRANSPORTER: FedEx

DATE: 061098

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

FS-12

90mw0054

GROUND-WATER SAMPLING LOG

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ENVIRONMENTAL & ENERGY SERVICES

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 8 Jan 98
 WELL No.: GNDW 54 CLIMATIC CONDITIONS: _____ TIME: 1410
 REMARKS: CAMP 6000 WELLS SAMPLER: CH/RN

WELL PURGING: _____ STATIC WATER LEVEL: 13.05 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 mL/min mL/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1415	0.5	10.12	5.52	15.7	222	190	8.51	100 mL/min DTA 13.05
1425	1.5	9.91	5.31	15.7	249	232	12.99	
1435	2.5	9.93	5.27	12.3	265	248	15.81	
1445	3.5	9.81	5.25	9.0	277	247	17.17	
1455	4.5	9.96	5.25	4.15	281	283	16.00	100 mL/min DTA 13.11
1500	5.0	9.83	5.25	3.12	280	287	15.25	
1505	5.5	9.84	5.24	2.18	280	292	15.32	
1510	6.0	9.78	5.24	1.64	281	290	15.46	
1515	6.5	9.79	5.24	1.64	281	300	15.57	
Colorimetric DO = 10 mg/L								
Turbidity (NTU) = 1.60 NTU								

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): WF12XA / WF12XL

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

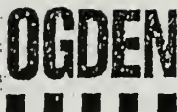
DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



ENVIRONMENTAL & ENERGY SERVICES

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PROJECT NUMBER:	3-3100-0103	LOCATION:	MMR	DATE:	16 Feb 98			
WELL No.:	90MW70	CLIMATIC CONDITIONS:	clear, windy 45°F	TIME:	1430			
REMARKS:	Collect EXP (8330) only			SAMPLER:	CH/JD			
WELL PURGING:	STATIC WATER LEVEL:		53.73	ft.	WELL DEPTH:	ft.		
LENGTH OF SATURATED ZONE:								
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES =						NA	gals.	
REMOVAL METHOD:		Bladder slow flow		PUMPING RATE:		200	ml/min.	
WELL PURGE DATA:								
TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1430	1	3.39	5.99	98.6	51	208	17.47	
1440	2	8.38	5.95	61.8	62	237	10.33	20.46; DTC 53.80
1450	4	8.02	5.52	44.5	62	259	9.88	
1500	6	7.58	5.72	39.2	63	271	9.20	
1510	8	7.23	5.65	26.5	64	281	8.29	
1520	10	8.15	5.64	17.1	66	285	6.57	20.46; DTC 53.81
1530	12	7.99	5.57	16.6	68	291	5.26	
1540	14	7.62	5.56	10.9	69	296	4.49	
1550	16	7.64	5.98	7.83	69	299	4.03	20.46; DTC 53.78
1555	17	7.57	5.97	6.92	69	301	4.07	
1600	18	7.54	5.46	5.50	69	302	4.14	
1605	19	7.92	5.46	4.86	69	303	4.21	
1610	20	7.37	5.44	4.65	69	305	4.26	
SAMPLE WITHDRAWAL METHOD:								Bladder Pump
LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:								VOC (HCl); EDB (Na ₂ S ₂ O ₃); MTBE (HCl); TOC (H ₂ SO ₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO ₂ /NO ₃ (H ₂ SO ₄); Metals (HNO ₃)
NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED:								40 ml; 2 1 L Amber; 1 L Poly
SAMPLE ID NUMBER(S):								BR = W ^F 70XE; SAMPLE = W ^F 70XA
DECON METHOD:								Liquidnox wash; DI rinse; Methonal Rinse; DI rinse
PURGE WATER DISPOSED OF IN DRUM NUMBER:								DECON GAC SYSTEM
SAMPLES DELIVERED TO:								ETS
TRANSPORTER:								
DATE:								
TIME:								
CASING CAPACITY (gallons/linear foot) 2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87 Well Screen Volume = 0.041(d) ² h Saturated Filter Pack = 0.041[(d ₁) ² - (d ₂) ²]h(0.3)								

[illegible]

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 9 FEB 98
 WELL No.: 90 MW 71 CLIMATIC CONDITIONS: partly sunny, 38°F, 1st may TIME: 0840
 REMARKS: EXP (8330) collected only SAMPLER: CH/JD

WELL PURGING: STATIC WATER LEVEL: 67.6 ft. WELL DEPTH: ft.

LENGTH OF SATURATED ZONE:

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 200 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0855	0	7.36	6.33	6.70	18	176	10.16	100 ml/min 167.71
0905	1.0	7.19	5.95	73.4	31	273	13.44	200 ml/min 67.65
0915	3.0	8.16	5.99	86.7	59	291	7.68	
0925	5.0	7.16	5.54	82.1	56	296	8.49	
0935	7.0	7.84	5.56	55.4	52	301	8.69	
0945	9.0	6.77	5.58	45.6	58	308	8.95	200 ml/min 67.70
0955	11.0	8.02	5.64	30.1	57	309	8.85	
1005	13.0	8.66	5.67	35.6	57	313	8.68	
1015	15.0	8.71	5.66	24.8	52	317	8.31	
1025	17.0	8.37	5.66	17.4	58	322	8.46	
1035	19.0	8.16	5.66	13.5	58	326	9.05	
1045	21.0	8.11	5.66	14.5	58	329	9.14	200 ml/min
1055	23.0	8.26	5.66	9.10	58	332	9.14	67.68

SAMPLE WITHDRAWAL METHOD: Bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (H₂S₂O₃); MTBE (HCl);

TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 40 ml; 2 1 L Amber; 1 L Poly

SAMPLE ID NUMBER(S): WF71XE = ER; Sample = WF71XA

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON GAS SYSTEM

SAMPLES DELIVERED TO: LTS TRANSPORTER:

DATE: TIME:

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 6.87

Well Screen Volume = 0.041(d)²h

Saturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)

[illegible]



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 19 FEB 98
WELL No.: 90MW80 CLIMATIC CONDITIONS: Overcast, 11 Breeze TIME: 1555
REMARKS: Collect Exp (8330) only 40°F SAMPLER: CH/JD

WELL PURGING: _____ STATIC WATER LEVEL: 48.40 ft. WELL DEPTH: _____ ft.

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1600	0	8.23	7.09	6.42	56	89	12.35	100 ml/min
1610	1.0	8.56	6.13	4.41	51	131	11.87	
1620	2.0	8.53	5.86	1.26	53	161	12.47	
1630	3.0	8.14	5.77	0.53	53	175	12.53	End of Day 19 FEB 98
0715	4.0	8.52	6.69	1.16	72	125	15.48	Start 20 FEB 98
0725	5.0	8.38	6.14	0.92	60	163	13.92	100 ml/min 48.40'
0730	5.5	8.00	5.97	0.82	59	176	13.75	100 ml/min 48.40'
0735	6.0	8.06	5.87	0.83	55	183	13.40	
0740	6.5	8.26	5.82	0.82	54	189	13.28	
0745	7.0	8.41	5.78	1.34	53	197	13.39	
0750	7.5	8.38	5.76	1.61	53	200	13.38	100 ml/min
0755	8.0	8.17	5.76	1.78	53	203	13.43	
0800	8.5	7.97	5.75	1.32	53	207	13.44	

SAMPLE WITHDRAWAL METHOD: Low flow bladder pump

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 40 ml; 2 1 L Amber; 1 L Poly

SAMPLE ID NUMBER(s): WF80XA; No ER Collected (see MW106)

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: Decon GAC System

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$



GROUND-WATER SAMPLING LOG

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PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA DATE: 2/24-25/98
WELL NO. WU228040 CLIMATIC CONDITIONS: rain, wind, 45°F TIME: 1225
REMARKS: _____ SAMPLER: CH/JS

WELL PURGING:

STATIC WATER LEVEL: 19.20 ft. WELL DEPTH: _____ ft.LENGTH OF SATURATED ZONE: _____ linear ft. VOLUME OF WATER TO BE EVACUATED: NA gals.VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Low Flow Bladder PUMPING RATE: _____ ml/min.

WELL PURGE DATA:

DATE	TEMP (C)	pH	TURB. (NTU)	COND. (uS/cm)	ORP (mV)	DO (ppm)	flow rate (ml/min)	draw down (ft)	COMMENTS
1230	9.30	5.75	853	73	190	16.8	100	0	0 L purged
1240	9.39	5.42	341	72	226	16.01	100	0	1 "
1250	9.41	5.34	231	72	242	15.93	100	0	2 "
1300	9.41	5.32	187	72	252	15.88	100	0	3 "
1310	9.41	5.31	131	73	261	15.86	100	0	4 "
1320	8.94	5.33	94.3	73	264	15.95	100	0	5 "
1330	8.93	5.33	75.2	74	268	15.94	100	0	6 "
1340	8.76	5.32	69.3	74	272	15.94	100	0	7 "
1350	8.65	5.32	65.4	75	276	15.98	100	0	8 "

SAMPLE WITHDRAWAL METHOD: Low Flow BladderLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄);
SVOC (none); EXP (none); Herb (none); PCB/Pest (none); Alk (none); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1L amber; 4 1L polySAMPLE ID NUMBER(S): WU22XE, WU22XA, WU22XLDECON METHOD: See Work Plan

PURGE WATER DISPOSED OF IN DRUM NUMBER: _____

SAMPLES DELIVERED TO: ITS LaboratoryTRANSPORTER: 1

DATE: _____ TIME: _____

COLORIMETRIC DO = 9 mg/L, FINAL TURBIDITY = 12.0 NTUs

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

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PROJECT NUMBER: 313000103 LOCATION: Camp Edwards, MA WELL: USFW228040

[illegible]



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USFW241098

(CS-4)

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 12 Jan 98
WELL No.: FSW241 CLIMATIC CONDITIONS: clear, sunny, windy, 35°F TIME: 0930
REMARKS: _____ SAMPLER: CH/BH

WELL PURGING: _____ STATIC WATER LEVEL: 55.43 ft. WELL DEPTH: 100 ft.
LENGTH OF SATURATED ZONE: UNKNOWN
VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0940	0	7.43	5.66	59K	150	241	11.99	DTW 55.45/100 ml/min
0950	1.0	7.41	5.50	421	150	242	3.79	
1000	2.0	7.56	5.39	26.3	149	253	-0.29	DO failed - need new probe
1010	3.0	7.74	5.36	174	148	260	12.45	DTW 55.45/100 ml/min
1020	4.0	7.83	5.31	112	148	270	17.63	
1030	5.0	7.90	5.29	95.2	147	277	12.08	
1040	6.0	8.09	5.28	83.8	147	281	12.09	
1050	7.0	8.13	5.28	80.8	147	286	10.63	
1105	8.5	8.16	5.26	77.1	147	293	11.27	
1110	9.0	8.21	5.27	65.4	146	294	12.44	
1120	10.0	8.14	5.23	62.5	148	300	10.64	DTW 55.46/100 ml/min
1130	11.0	8.20	5.24	71.9	150	302	11.09	#200 ml/min
1140	13.0	8.13	5.27	53.5	154	304	12.07	

SAMPLE WITHDRAWAL METHOD: _____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED:

11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s):

WU24X1E for group monitoring; WU24XA/WU24XL

DECON METHOD:

Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER:

DISPOSED OF AT DECON GAC SYSTEM

SAMPLES DELIVERED TO:

ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$ Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1150	15	8.14	5.22	60.4	155	308	12.30	
1200	17	8.25	5.24	54.8	154	309	12.41	
1210	19	8.27	5.23	54.4	154	312	12.87	
1220	21	8.45	5.23	46.8	153	314	14.02	
1230	23	8.60	5.23	52.3	152	315	10.57	DTW SS 46 / 200 ml/min
1240	24	9.17	5.27	151.7	150	316	10.45	↑ 300 ml/min
1250	27	9.23	5.22	85.3	148	319	9.87	
1300	32	9.27	5.22	80.8	148	321	10.09	
1310	35	9.33	5.22	93.8	148	322	10.85	
1320	36	8.49	5.19	88.4	150	325	12.64	↓ 100 ml/min
1330	37	8.52	5.21	52.8	150	325	12.51	
1340	38	8.69	5.24	46.7	153	324	11.08	
1350	39	8.87	5.27	39.8	156	322	10.80	
1400	40	9.02	5.25	33.8	160	324	8.23	
1410	41	8.97	5.25	31.4	162	326	11.31	
1420	42	8.91	5.18	27.2	164	330	2.00	DO off again
1430	43	8.92	5.19	30.8	160	331	11.68	

Sample collected @ 1440

Colorimetric DO = 6 mg/L @ 1455 (after collection of VOA's - at 400 ml VOA)

TURB PRIOR TO METALS COLLECTION = 34.2



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 25 Nov 97
 WELL No.: Bouwell 215 CLIMATIC CONDITIONS: partly cloudy, 35°F, windy TIME: _____
 REMARKS: _____ SAMPLER: CH/AG

WELL PURGING: _____ STATIC WATER LEVEL: 55.89 ft WELL DEPTH: 84.50 ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1510	0	8.04	7.00	29.7	128	215	11.02	300 ml/min
1520	5.0	9.47	8.12	928	186	239	9.61	
1530	6.0	9.62	7.72	236	144	259	12.00	100 ml/min DTW 55.92'
1540	7.0	9.18	7.14	134	135	277	12.04	
1550	8.0	9.03	7.03	86.3	132	257	11.28	DTW 55.92' TOC
1600	9.0	9.24	6.90	122.5	141	296	10.83	
1610	10.0	9.49	6.88	16.8	142	301	10.70	
0700	10.0	9.71	6.34	120	181	328	17.71	26 Nov 97 DTW 55.85'
0710	11.0	9.84	6.51	77.8	154	331	17.32	Pump Rate: 100 ml/min.
0720	12.0	9.76	6.48	66.1	141	345	17.42	
0730	13.0	9.74	6.39	57.2	132	356	17.53	DTW 55.95' TOC
0740	14.0	9.75	6.30	47.0	123	366	17.56	

SAMPLE WITHDRAWAL METHOD: Bladder slow flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl); TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(s): W4033A; W4033C

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: NA

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

Bourne LF 215, 11-26-97

TIME	LITERS		TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
	REMOVED								
0750	15.0		9.74	6.21	42.4	117	376	17.56	
0800	16		9.74	6.14	40.5	113	384	17.56	
0810	17.0		9.76	6.09	36.1	110	390	17.57	
0820	18.0		9.78	6.06	35.5	109	395	17.61	
0830	19.0		9.85	6.03	33.1	108	400	17.60	DTW 55.99' TCC 100 ml/min
0840	20.0		9.94	6.00	33.0	107	404	18.43	
0850	21.0		9.99	6.00	29.8	107	407	17.56	
0900	22.0		10.04	5.97	28.7	106	411	18.39	
0910	23.0		10.15	5.98	26.4	106	413	17.51	
0920	24.0		10.29	5.97	25.7	107	416	17.48	100 ml/min.
0930	25.0		10.49	5.98	22.9	107	417	17.49	DTW 55.97'
0940	26		10.64	5.97	19.6	108	419	17.53	
0950	27		10.70	5.95	17.6	108	421	18.58	
0955	27.5		10.75	5.96	16.0	108	421	17.54	
1000	28.0		10.77	5.95	15.4	108	422	17.52	
1005	28.5		10.73	5.94	15.3	108	423	17.84	DTW 55.93
1010	29.0		10.64	5.95	14.6	107	424	17.58	
COLLECT SAMPLE @ 1010 26 NOV 97									
COLUMBIANIC DO - 8mg									
TURBIDITY PRIOR TO METALS COLLECTION = 2.53 NTUS									



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PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 8 JAN 98WELL No.: SDZ0311 (USGS) CLIMATIC CONDITIONS: 14 Dec 94 50°F TIME: 0900REMARKS: _____ SAMPLER: CH/BHWELL PURGING: _____ STATIC WATER LEVEL: 92.60 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0905	6	9.03	5.19	5.11	127	301	14.27	100.4 ft/m DTW 92.60
0915	1.0	9.03	5.05	4.5	134	299	12.14	
0920	1.5	9.03	5.50	3.25	135	301	12.53	
0925	2.0	9.03	5.57	2.84	135	302	13.40	100.4 ft/m DTW 92.64
0930	2.5	9.03	5.62	5.8	136	304	13.46	
0935	3.0	9.03	5.65	12.2	138	305	13.93	
0940	3.5	9.03	5.67	20.2	140	306	14.63	
0945	4.0	9.03	5.68	23.5	141	309	15.04	100.4 ft/m DTW 92.61
0955	5.0	9.03	5.68	20.8	142	312	15.44	
1005	6.0	9.03	5.71	21.3	142	312	16.49	
1015	7.0	9.03	5.70	23.3	142	315	16.27	
1025	8.0	9.04	5.74	21.3	143	317	17.05	
1035	9.0	9.11	5.72	18.3	142	320	17.25	100.4 ft/m DTW 92.61

SAMPLE WITHDRAWAL METHOD: bladder slow flowLABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 1 1 L PolySAMPLE ID NUMBER(S): Regump. into 606111E, well sample 606111A/606111LDECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinsePURGE WATER DISPOSED OF IN DRUM NUMBER: NASAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = 0.041(d)²*hSaturated Filter Pack = 0.041[(d₁)²-(d₂)²]h(0.3)

8 JUN 58

SD 263111

TIME	REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
1045	10.0	9.13	5.72	15.2	141	321	17.36	
1055	11.0	9.13	5.73	13.2	141	323	17.47	
1105	12.0	9.14	5.73	10.5	142	324	17.62	
1115	13.0	9.15	5.75	8.74	142	324	17.67	
1125	14.0	9.16	5.74	7.13	142	325	17.71	
1135	15.0	9.17	5.73	3.21	141	326	17.74	
1145	15.5	9.20	5.73	4.69	143	326	17.84	
Sample 2-1145								
Chlorine DO = 10 mg/L -								
Turbidity probe in water = 3.08 NTU								



ENVIRONMENTAL & ENERGY SERVICES

USGS SDW261160
GROUND-WATER SAMPLING LOG

Page 1 of 1

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 7 JAN 98
 WELL No.: USGS 26116 CLIMATIC CONDITIONS: overcast, drizzle, 45°F TIME: _____
 REMARKS: MS/MSD collected SAMPLER: CH/BH

WELL PURGING: _____ STATIC WATER LEVEL: 139.48 ft WELL DEPTH: _____ ft

LENGTH OF SATURATED ZONE: _____

VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.

REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	3% TEMP	5.0 pH	10% TURBIDITY	3% COND.	50 mV ORP	10% DO	COMMENTS
0940	0	8.77	5.77	5.59	158	360	16.64	DTW 139.48
0950	1.0	8.92	6.07	2.80	158	364	16.35	
0955	1.5	8.94	6.06	2.46	167	366	15.62	DTW 139.47/100% DI
1000	2.0	8.97	6.06	2.21	172	369	15.14	
1005	2.5	8.98	6.06	1.72	177	371	16.07	
1010	3.0	8.96	6.07	1.48	178	371	15.63	
1015	3.5	8.97	6.06	1.35	178	373	15.65	
1020	4.0	8.98	6.07	0.86	178	374	15.68	
1027 - collect sample								
Chlorine DO = 712 mg/L								

SAMPLE WITHDRAWAL METHOD: bladder slow flow

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
 TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)

NUMBER AND TYPE OF SAMPLE CONTAINER(s) USED: 33 40 ml; 27 1 L Amber; 12 1 L Poly

SAMPLE ID NUMBER(s): WG1604; WG1606

DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: NA

SAMPLES DELIVERED TO: ITS

TRANSPORTER: _____

DATE: _____

TIME: _____

CASING CAPACITY (gallons/linear foot)

2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87

Well Screen Volume = $0.041(d)^2 \cdot h$

Saturated Filter Pack = $0.041[(d_1)^2 - (d_2)^2]h(0.3)$

PROJECT NUMBER: 3-3100-0103 LOCATION: MMR DATE: 2 FEB 98
 WELL No.: B3703 CLIMATIC CONDITIONS: clear, hazy TIME: 0930
 REMARKS: 40°F SAMPLER: C-11/10

WELL PURGING: _____ STATIC WATER LEVEL: 52.14 ft. WELL DEPTH: _____ ft.
 LENGTH OF SATURATED ZONE: _____
 VOLUME OF WATER TO BE EVACUATED X 3 CASING VOLUMES = NA gals.
 REMOVAL METHOD: Bladder slow flow PUMPING RATE: 100 ml/min.

WELL PURGE DATA:

TIME	LITERS REMOVED	TEMP	pH	TURBIDITY	COND.	ORP	DO	COMMENTS
0945	0	7.88	6.91	8.51	32	175	10.7%	
0955	1.0	7.45	5.39	25.5	45	270	12.36	14 100 ml/min DFW 52.13
1005	2.0	7.76	5.28	15.3	46	298	12.26	
1015	3.0	8.01	5.26	7.39	46	315	12.17	
1020	3.5	8.18	5.27	5.94	46	322	12.21	
1025	4.0	8.24	5.28	4.94	46	328	12.18	100 ml/min DFW 52.13
1030	4.5	8.38	5.27	3.31	47	333	12.20	
1035	5.0	8.52	5.30	3.01	47	336	12.20	
1040	5.5	8.64	5.32	2.98	48	340	12.18	
1045	6.0	8.60	5.37	2.09	48	343	12.16	
1050	Collected Sample = 12 mg/L							
FINAL TURB	= 1.43 NTU							

SAMPLE WITHDRAWAL METHOD: Bladder pump
 LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC (HCl); EDB (Na₂S₂O₃); MTBE (HCl);
TOC (H₂SO₄); SVOC (None); EXP (None); Herb (None); PCB/Pest (None); Alk (None); CN (NaOH); NO₂/NO₃ (H₂SO₄); Metals (HNO₃)
 NUMBER AND TYPE OF SAMPLE CONTAINER(S) USED: 11 40 ml; 9 1 L Amber; 4 1 L Poly

SAMPLE ID NUMBER(S): ER = W3703E (collected 1/30/98); SAMPLE = W3703A/
W3703C

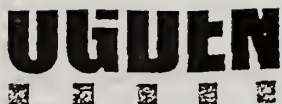
DECON METHOD: Liquidnox wash; DI rinse; Methonal Rinse; DI rinse

PURGE WATER DISPOSED OF IN DRUM NUMBER: DECON AREA GAC SYSTEM

SAMPLES DELIVERED TO: ITS TRANSPORTER: _____

DATE: _____ TIME: _____

CASING CAPACITY (gallons/linear foot)
 2" = 0.16, 4" = 0.65, 6" = 1.47, 8" = 2.6, 10" = 4.08, 12" = 5.87
 Well Screen Volume = 0.041(d)²h
 Saturated Filter Pack = 0.041[(d₁)² - (d₂)²]h(0.3)



Hand Auger Log

AREA: 01

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 01A
SAMPLER(S): ID, JD DATE: 9/18/97 (0-6") (18-24")
REMARKS: _____

Sample Time: 1555 VOCs, 1540 All (0-6") Sample ID: BO1AAA and BO1AAD (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #7

10 feet

(1) HS 0.1

Soil Description: Dark brown
organic.

(2) HS 0.0

Soil Description: _____
Same as 1.

(3) HS 0.0

Soil Description: _____
Same as 1.

10 feet

(4) HS 0.5

Soil Description: _____
Same as 1.

(5) HS 1.1

Soil Description: _____
Same as 1.

(6) HS 0.0

Soil Description: _____
Same as 1.

0 feet

(7) HS 3.2

Soil Description: _____
Same as 1.

(8) HS 0.2

Soil Description: _____
Same as 1.

(9) HS 0.2

Soil Description: _____
Same as 1.

0 feet

10 feet

10 feet



HS=Headspace PPM (0-6")



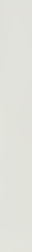
Hand Auger Log

AREA: 61

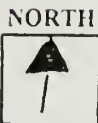
PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 01A
 SAMPLER(S): T. STANLEY DATE: 11-18-97 (0-6") (18-24")
J. Cipollini
 REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1028 (0-6") (18-24") Sample ID: B01ABA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

<u>~10</u> feet 	(1) HS <u>0.0</u> Soil Description: <u>VERY</u> <u>DARK BROWN SILT.</u> <u>10Y 3/3</u>	(2) HS <u>0.0</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(3) HS <u>0.0</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	
	<u>~10</u> feet 	(4) HS <u>0.0</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(5) HS <u>0.0</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(6) HS <u>0.0</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
	0 feet 	(7) HS <u>0.0</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(8) HS <u>0.0</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(9) HS <u>0.0</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN</u> <u>SILT, 10Y 4/4</u>

0 feet ~10 feet ~16 feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 01B
SAMPLER(S): TD, JD DATE: 9/18/97 (0-6") (18-24")
REMARKS: _____

Sample Time: 1505 VOCs, 1450 All (0-6") Sample ID: B01BAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>10</u> feet	① HS <u>0.2</u> Soil Description: <u>Dark brown</u> <u>organic.</u>	② HS <u>1.7</u> Soil Description: _____ <u>Same as 1.</u>	③ HS <u>2.6</u> Soil Description: _____ <u>Same as 1.</u>
<u>10</u> feet	④ HS <u>2.9</u> Soil Description: _____ <u>Same as 1</u>	⑤ HS <u>3.0</u> Soil Description: _____ <u>Same as 1.</u>	⑥ HS <u>1.8</u> Soil Description: _____ <u>Same as 1.</u>
0 feet	⑦ HS <u>2.5</u> Soil Description: _____ <u>Same as 1.</u>	⑧ HS <u>2.4</u> Soil Description: _____ <u>Same as 1.</u>	⑨ HS <u>1.4</u> Soil Description: _____ <u>Same as 1.</u>

0 feet → 10 feet → 10 feet



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 01

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 01B
 SAMPLER(S): J. Cipollini DATE: 11-18-97 (0-6") (18-24")
T. Stanley
 REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1126 (0-6") Sample ID: B01BBA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0

Soil Description: DARK
BROWN SILT,
10Y 2/3

② HS 0.0

Soil Description: DARK
YELLOWISH BROWN
SILT, 10Y 4/4

③ HS 0.0

Soil Description: SAME
AS 1.

~16 feet

④ HS 0.0

Soil Description: SAME
AS 1.

⑤ HS 0.0

Soil Description: SAME
AS 1.

⑥ HS 0.0

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0

Soil Description: SAME AS
1.

⑧ HS 0.0

Soil Description: SAME
AS 1.

⑨ HS 0.0

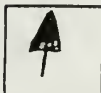
Soil Description: SAME
AS 1.

0 feet

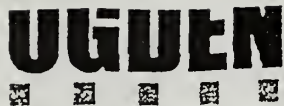
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 01C

SAMPLER(S): TD, JD

DATE: 9/18/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 1425 VOC, 1410 All (0-6")
(18-24")

Sample ID: BOICAA (0-6")
(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 2.1

② HS 2.7

③ HS 2.4



Soil Description: Dark brown
Organic.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

10 feet

④ HS 2.3

⑤ HS 2.7

⑥ HS 2.5



Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

⑦ HS 1.9

⑧ HS 1.9

⑨ HS 1.9

Soil Description: _____
same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 0/C
SAMPLER(S): J. CIPULLINI DATE: (0-6") 11-18-97 (18-24")
T. SIARLEY
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6") Sample ID: (0-6")
1417 (18-24") B o l C B A (18-24")

VOC grab sample was collected from boring: 11

~10 feet

① HS 1.1 ppm

② HS 0.0

③ HS 0.0

Soil Description: DARK
YELLOWISH BROWN SILT,
TRACE OF FINE SAND.
10Y 4/6

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: VERY
DARK BROWN SILT.
10Y 2/2

Soil Description: SAME
AS 7.

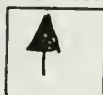
Soil Description: SAME
AS 7.

0 feet

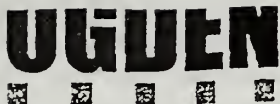
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 01D
SAMPLER(S): ID, JD DATE: 9/18/97 (0-6") (18-24")
REMARKS: FID back ground 0.0 ppm.

Sample Time: 1115 Vocs, 1105 All else (0-6") Sample ID: B01DAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

10 feet	① HS <u>1.4</u> Soil Description: <u>Dark brown organic</u>	② HS <u>2.4</u> Soil Description: <u>Same as 1.</u>	③ HS <u>1.0</u> Soil Description: <u>Same as 1.</u>
10 feet	④ HS <u>1.8</u> Soil Description: <u>Same as 1.</u>	⑤ HS <u>2.4</u> Soil Description: <u>Same as 1.</u>	⑥ HS <u>1.9</u> Soil Description: <u>Same as 1.</u>
0 feet	⑦ HS <u>1.9</u> Soil Description: <u>Same as 1.</u>	⑧ HS <u>1.9</u> Soil Description: <u>Same as 1.</u>	⑨ HS <u>2.1</u> Soil Description: <u>Same as 1.</u>

0 feet → 10 feet → 10 feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 01D
SAMPLER(S): J. Cipollini T. STANLEY DATE: (0-6") 11-18-97 (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6") Sample ID: (0-6")
1517 (18-24") B01DBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet
1 HS 0.0 ppm
Soil Description: Yellowish
Brown silt, trace
of sand. 10% S₄

2 HS 0.0 ppm
Soil Description: SAME
AS 1.

3 HS 0.0 ppm
Soil Description: SAME
AS 1.

~10 feet
4 HS 0.0 ppm
Soil Description: SAME
AS 1.

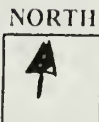
5 HS 0.0 ppm
Soil Description: SAME
AS 1.

6 HS 0.0 ppm
Soil Description: SAME
AS 1.

0 feet
7 HS 0.0 ppm
Soil Description: SAME
AS 1.

8 HS 0.0 ppm
Soil Description: SAME
AS 1.

9 HS 0.0 ppm
Soil Description: SAME
AS 1.

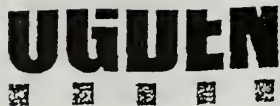


0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")



Hand Auger Log

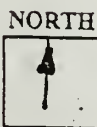
AREA: 01

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 01E
SAMPLER(S): TD, JD DATE: 9/18/97 (0-6") (18-24")
REMARKS: FID background 0.2 ppm.

Sample Time: 1315 VOCs, 1300 All else (0-6") Sample ID: BO1EAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #1

<u>10</u> feet	① HS <u>3.0</u> Soil Description: <u>Dark brown organic.</u>	② HS <u>2.2</u> Soil Description: <u>Same as 1.</u>	③ HS <u>2.3</u> Soil Description: <u>Same as 1.</u>
<u>10</u> feet	④ HS <u>2.3</u> Soil Description: <u>Same as 1.</u>	⑤ HS <u>1.2</u> Soil Description: <u>Same as 1.</u>	⑥ HS <u>1.4</u> Soil Description: <u>Same as 1.</u>
0 feet	⑦ HS <u>1.6</u> Soil Description: <u>Same as 1.</u>	⑧ HS <u>2.0</u> Soil Description: <u>Same as 1.</u>	⑨ HS <u>1.7</u> Soil Description: <u>Same as 1.</u>
0 feet	→ <u>10</u> feet → <u>10</u> feet		



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 01E
 SAMPLER(S): JC/TS DATE: 11-18-97 (0-6") (18-24")
 REMARKS: FID Background 0.0 ppm

Sample Time: 1607 (0-6") (18-24") Sample ID: BOIEBA (0-6") (18-24")

VOC grab sample was collected from boring: No Sample

10 feet



① HS 0.0 ppm
 Soil Description Very
dark brown Silt.

② HS 0.0 ppm
 Soil Description Same
as 1

③ HS 0.0 ppm
 Soil Description Same
as 1

10 feet



④ HS 0.0 ppm
 Soil Description Same
as 1

⑤ HS 0.0 ppm
 Soil Description Same
as 1

⑥ HS 0.0 ppm
 Soil Description Same
as 1

0 feet

⑦ HS 0.0 ppm
 Soil Description Same
as 1

⑧ HS 0.0 ppm
 Soil Description Same
as 1

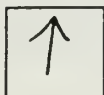
⑨ HS 0.0 ppm
 Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 1

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 01F

SAMPLER(S): TD, JD

DATE: 9/19/97 (0-6")

(18-24")

REMARKS: FID back ground 1.2 ppm

Sample Time: VOCs 1030, All 1020 (0-6")
(18-24")

Sample ID: B01FAA (0-6")
(18-24")

VOC grab sample was collected from boring: #2

10 feet

① HS 3.0

② HS 25.1

③ HS 2.4



Soil Description: Lt. brown
Medium Sand with fines,
trace gravel

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

10 feet

④ HS 4.5

⑤ HS 8.5

⑥ HS 11.5



Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

⑦ HS 4.5

⑧ HS 8.2

⑨ HS 7.9

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

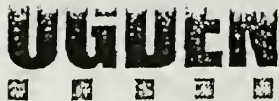
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR. PROJECT NUMBER: 313000103 GRID ID: 01F
SAMPLER(S): J. Cipollini DATE: 11-19-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0808 (0-6") Sample ID: B01FBA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND.
10Y 5/4

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: YELLOWISH
BROWN SAND, TRACE
OF SILT. 10Y 5/6

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS _____

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: UNABLE
TO COLLECT.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 1

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 01G

SAMPLER(S): TD, JD

DATE: 9/19/97

(0-6")

(18-24")

REMARKS: Background on FID, 1.0 ppm.

Sample Time: 1200 VOCs, 1140 All (0-6")
(18-24")

Sample ID: BO16AA and BO16AD (0-6")
(18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 20.4

Soil Description: Light brown
Silty Sand, trace gravel

② HS 4.3

Soil Description: _____
Same as l.

③ HS 2.2

Soil Description: _____
Same as l.

10 feet

④ HS 4.8

Soil Description: _____
Same as l.

⑤ HS 12.1

Soil Description: _____
Same as l.

⑥ HS 9.4

Soil Description: _____
Same as l.

0 feet

⑦ HS 11.2

Soil Description: _____
Same as l.

⑧ HS 3.2

Soil Description: _____
Same as l.

⑨ HS 11.4

Soil Description: _____
Same as l.

0 feet

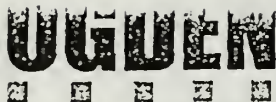
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR
J. Cipollini

PROJECT NUMBER: 313000103

GRID ID: 01G

SAMPLER(S): T. STANLEY

DATE: _____ (0-6") 11-19-97 (18-24")

REMARKS: FID BACKGROUND 0.0ppm.

Sample Time: _____ (0-6")
0929 (18-24")

Sample ID: _____ (0-6")
B 01GBA (18-24")

VOC grab sample was collected from boring: H2

~10 feet

① HS 0.5ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND.
10Y⁵/₆

② HS 4.7ppm

Soil Description: SAME
AS 1.

③ HS 1.3ppm

Soil Description: GRAYISH
BROWN SILT, TRACE
OF FINE SAND.
10Y⁵/₆

~10 feet

④ HS 0.0ppm

Soil Description: SAME
AS 1.

⑤ HS 4.5ppm

Soil Description: SAME
AS 1.

⑥ HS 3.3ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.5ppm

Soil Description: SAME
AS 1.

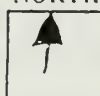
⑧ HS 0.5ppm

Soil Description: SAME
AS 1.

⑨ HS 0.1ppm

Soil Description: SAME
AS 1.

NORTH



0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 1

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 01H

SAMPLER(S): TD, JD

DATE: 9/19/97

(0-6")

(18-24")

REMARKS: FID background of 1.2 ppm

Sample Time: 0925 Voc, 0915 All (0-6")

Sample ID: B01HAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #9

10 feet

① HS 1.2

Soil Description: Medium

sand with fines, some

gravel

② HS 2.5

Soil Description: _____

Same as 1

③ HS 2.3

Soil Description: _____

Same as 1

10 feet

④ HS 3.8

Soil Description: _____

Same as 1

⑤ HS 3.4

Soil Description: _____

Same as 1

⑥ HS 2.7

Soil Description: _____

Same as 1

0 feet

⑦ HS 1.4

Soil Description: _____

Same as 1

⑧ HS 1.9

Soil Description: _____

Same as 1

⑨ HS 5.3

Soil Description: Light brown

Fine Silty SAND

trace medium sand.

NORTH

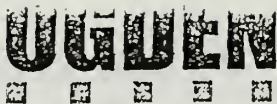


0 feet

10 feet

10 feet

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 01

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 01H

SAMPLER(S): J. Cipollini
T. STAPLEY

DATE: (0-6") 11-19-97 (18-24")

REMARKS: FID BACK GROUND 0.0 PPM

ONLY COLLECTED SAMPLES FROM 12" TO 16" DUE TO HEAVY CONCENTRATION OF STONES & ROCKS

Sample Time: (0-6")
1106 (18-24")

Sample ID: (0-6")
BOIHB8 (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0

Soil Description: UNABLE
TO COLLECT SAMPLES.

② HS 0.0

Soil Description: YELLOWISH
BROWN SAND.
10% S

③ HS 0.0

Soil Description: SAME
AS 2.

~10 feet

④ HS 0.0

Soil Description: SAME
AS 2.

⑤ HS 0.0

Soil Description: SAME
AS 2.

⑥ HS 0.0

Soil Description: SAME
AS 2.

0 feet

⑦ HS 0.0

Soil Description: SAME
AS 2.

⑧ HS 0.0

Soil Description: SAME
AS 2.

⑨ HS 0.0

Soil Description: SAME
AS 2.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 1

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 01I

SAMPLER(S): JD/JC DATE: 1-9-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1110 (0-6")
(18-24")

Sample ID: BOIZAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

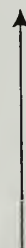


① HS 0.0 ppm
Soil Description Dark
yellowish brown
(10Y 4/6) Silt

② HS 0.0 ppm
Soil Description Same
as 1.

③ HS 0.0 ppm
Soil Description Very
dark brown (10Y 2/2)
Silt.

10 feet



④ HS 0.0 ppm
Soil Description Same
as 1.

⑤ HS 0.0 ppm
Soil Description Same
as 1.

⑥ HS 0.0 ppm
Soil Description Same
as 3.

0 feet

⑦ HS 0.0 ppm
Soil Description Same
as 1.

⑧ HS 0.0 ppm
Soil Description Same
as 1.

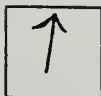
⑨ HS 0.0 ppm
Soil Description Same
as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 01I

SAMPLER(S): BG/km

DATE: (0-6") 3-9-98 (18-24")

REMARKS:

Sample Time: 9:00 (0-6") (18-24")

Sample ID: B01ZBA (0-6") (18-24")

VOC grab sample was collected from boring: —

10 feet

1 HS 0

2 HS 0

3 HS 0



Soil Description: 10YR 5/4 Yellowish
brown fine SAND
Some SILT, trace
Clay and gravel

Soil Description: 10YR 5/4 Yellowish
brown fine SAND,
Some SILT, trace Clay

Soil Description: 10YR 5/4 Yellowish
brown fine SAND,
Some SILT, gravel
and clay

10 feet

4 HS 0

5 HS 0

6 HS 0



Soil Description: 10YR 5/4 Yellowish
brown fine SAND,
Some SILT, trace
gravel and Clay

Soil Description: 10YR 5/4 Yellowish
brown fine SAND,
Some SILT, Gravel
and Clay

Soil Description: 10YR 5/4 Yellowish
fine SAND, some
cs SAND and organics
Trace, gravel

0 feet

7 HS 0

8 HS 0

9 HS 0

Soil Description: 10YR 5/4 Yellowish
Brown fine SAND
Some SILT, Gravel
and Clay

Soil Description: 10YR 5/4 Yellowish
Brown med to cs
SAND, some gravel
and SILT

Soil Description: 10YR 5/4 Yellowish
Brown fine SAND
Some SILT, Gravel
and Clay

0 feet

10 feet

10 feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 1

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 015
SAMPLER(S): JC/JD DATE: 1-9-98 (0-6") (18-24")
REMARKS: FID Background 0.0ppm

Sample Time: 1147 (0-6") Sample ID: BO15AA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Dark
yellowish brown (10Y 4/6)
Silt, trace SAND



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Dark
yellowish brown
(10Y 3/4) Silt



HS 0.0

Soil Description Same
as 5

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: /

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 01J
SAMPLER(S): BG/KM DATE: _____ (0-6") 3-9-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1050 (18-24") B01JBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

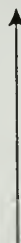


① HS 0
Soil Description Brown
(10YR 5/4) fine SAND
Some silt, trace
organics.

② HS 0
Soil Description Same
as 1

③ HS 0
Soil Description Same
as 1

10 feet



④ HS 0
Soil Description Brown
(10YR 5/4) fine SAND
Some silt and organics.

⑤ HS 0
Soil Description Same
as 4

⑥ HS 0
Soil Description Same
as 1

0 feet

⑦ HS 0
Soil Description Same
as 1

⑧ HS 0
Soil Description Same
as 1

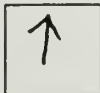
⑨ HS 0
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 1

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 01K

SAMPLER(S): FE/JD DATE: 12 Jan 98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0835 (0-6") Sample ID: BOIKAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

Soil Description Black
Very fine Organic
Soil

② HS 0.0

Soil Description Same
as 2

③ HS 0.0

Soil Description Dark
brown very fine
Soil

10 feet

④ HS 0.0

Soil Description Same
as 3

⑤ HS 0.0

Soil Description Same
as 1

⑥ HS 0.0

Soil Description Very
dark red (10R 2.5/2)
fine Soil.

0 feet

⑦ HS 0.0

Soil Description Dusky
red (10R 3/3) very
fine Soil

⑧ HS 0.0

Soil Description Reddish
black (10R 2.5/1)
fine Organic Soil

⑨ HS 0.0

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 01K

SAMPLER(S): BG/KM DATE: _____ (0-6") 3-9-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0950 (18-24")

Sample ID: _____ (0-6")
B01KBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0

Soil Description dark

Yellowish brown (10YR
4/4) fine SAND, trace
SILT and CS SAND



HS 0

Soil Description Yellowish

brown (10YR 5/4) fine
SAND, trace SILT
and organics



HS 0

Soil Description Same

as 2

10 feet



HS 0

Soil Description Same

as 2



HS 0

Soil Description Same

as 2



HS 0

Soil Description Brown

(10YR 5/4) fine to
med SAND, some
SILT, trace organics

0 feet



HS 0

Soil Description Same

as 2



HS 0

Soil Description Same

as 2



HS 0

Soil Description Same

as 2

0 feet

10

feet

10

feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02A

SAMPLER(S): JH/TD

DATE: 9/11/97

(0-6")

(18-24")

REMARKS:

Sample Time: 08:25, All 915 (0-6")
(18-24")

Sample ID: R-02AAA (0-6")
(18-24")

VOC grab sample was collected from boring: 2

10 feet

① HS 3.1

② HS 43.6

③ HS 13.0

Soil Description: lt. orange
brown & organic
soil, trace gravel
cobbles 1-3" subangular

Soil Description:

same as 1

Soil Description:

same as 1

10 feet

④ HS 4.3

⑤ HS 6.7

⑥ HS 1.3

Soil Description:

same as 1

Soil Description:

same as 1

Soil Description:

same as 1

0 feet

⑦ HS 3.9

⑧ HS 6.2

⑨ HS 3.6

Soil Description:

same as 1

Soil Description:

same as 1

Soil Description:

same as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 02A

SAMPLER(S): JC/FE DATE: (0-6") 11-11-97 (18-24")

REMARKS: FID Background

Sample Time: (0-6") 1430 (18-24")

Sample ID: (0-6") B02ABA (18-24")

VOC grab sample was collected from boring: 7

10 feet

① HS 0.2 ppm
Soil Description yellowish
brown SILT, trace
fine SAND

② HS 2.4 ppm
Soil Description Same
as 1.

③ HS 1.5 ppm
Soil Description Same
as 1

10 feet

④ HS 2.7 ppm
Soil Description Same
as 1

⑤ HS 8.2 ppm
Soil Description Same
as 1

⑥ HS 2.1 ppm
Soil Description Same
as 1

0 feet

⑦ HS 10.2 ppm
Soil Description Same
as 1

⑧ HS 2.2 ppm
Soil Description yellowish
brown (10 Y 5/6) SAND
Some SILT

⑨ HS 0.6 ppm
Soil Description Same
as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



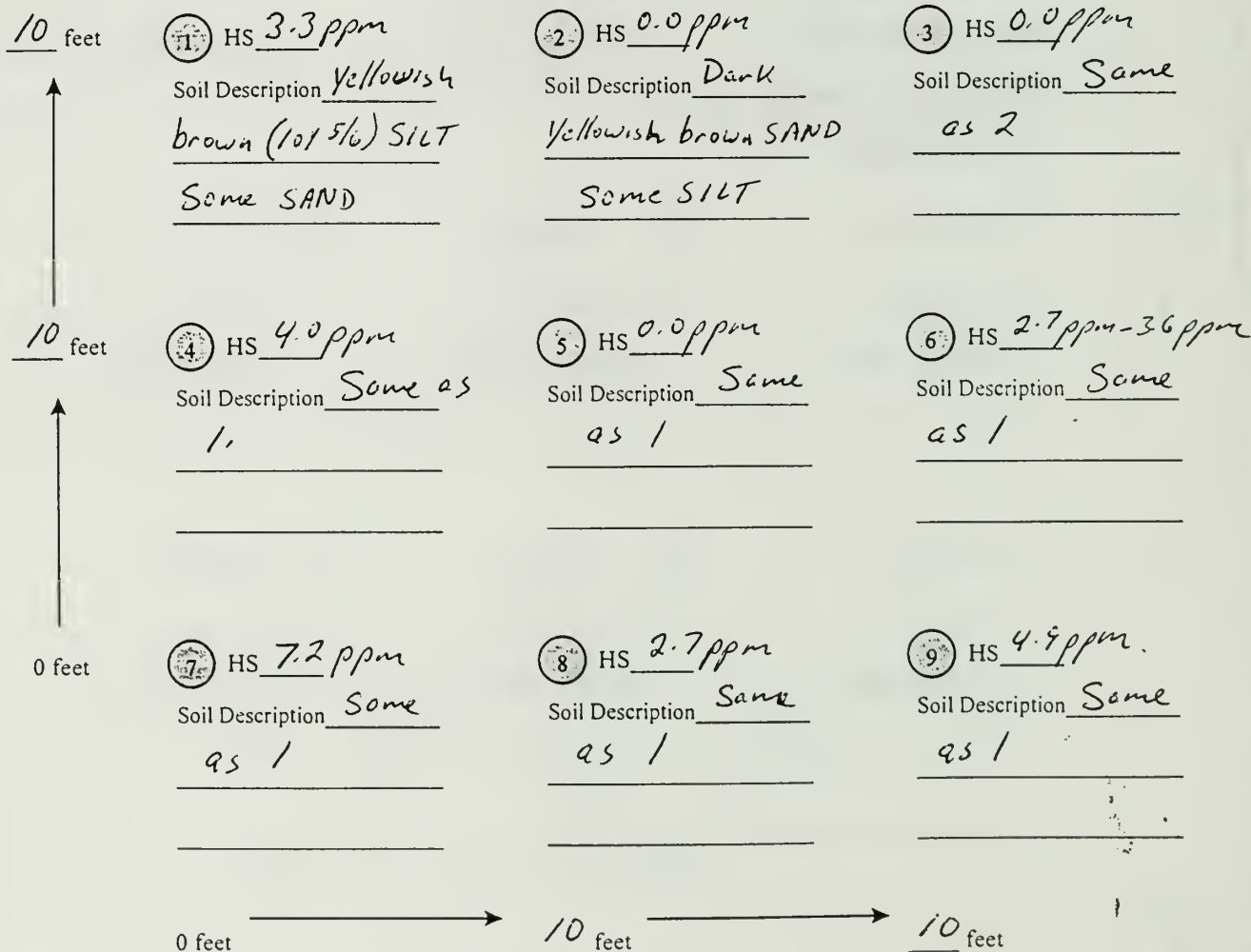
Hand Auger Log

AREA: 02

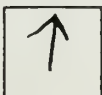
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 02B
SAMPLER(S): JC/FE DATE: 11-11-97 (0-6") (18-24")
REMARKS: FID Background - 0.0ppm

Sample Time: 1530 (0-6") (18-24") Sample ID: B02B3H (0-6") (18-24")

VOC grab sample was collected from boring: 7



NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02C

SAMPLER(S): JH TD

DATE: 9/10/97 (0-6")

(18-24")

REMARKS:

Sample Time: VOC 1800, ALL 1750 (0-6")
(18-24")

Sample ID: B02CAA (0-6:)
(18-24")

VOC grab sample was collected from boring: 3

10 feet

① HS 1.5

② HS 9.4

③ HS 9.5

Soil Description: Orange-

Soil Description: _____

Soil Description: _____

brown silty f SAND

same as 1

same as 1

trace gravel, cohesive
cobbles-1-3", subangular
to subrounded, organics

10 feet

④ HS 3.0

⑤ HS 3.2

⑥ HS 1.2

Soil Description: _____

Soil Description: _____

Soil Description: _____

same as 1

same as 1

same as 1

0 feet

⑦ HS 2.9

⑧ HS 4.4

⑨ HS 2.7

Soil Description: _____

Soil Description: _____

Soil Description: _____

same as 1

same as 1

same as 1

0 feet

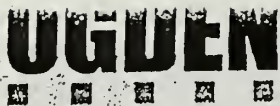
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02C

SAMPLER(S): J. Cipollini
P. Essigmeier

DATE: (0-6") 11-11-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: (0-6")
1600 (18-24")

Sample ID: (0-6")
303 CBA (18-24")

VOC grab sample was collected from boring: _____

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN silt, trace
of FINE SAND
10Y 5/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 1.2 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 1.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.1 ppm

Soil Description: SAME
AS 1.

0 feet

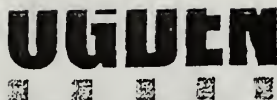
~10 feet

~10 feet

NORTH



HIS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: φ2D

SAMPLER(S): JH/1D
VOC 1010, All 1000

DATE: 9/11/97 (0-6")

(18-24")

REMARKS: area cratered

Sample Time: VOC 1010, All 1000 (0-6")
(18-24")

Sample ID: 3φ2DAA (0-6")
(18-24")

VOC grab sample was collected from boring: 2

10 feet

① HS 2.6

② HS 5.8

③ HS 3.0

Soil Description: dk. brown

Soil Description: _____

Soil Description: _____

fr organic soil

Same as 1

Same as 1

trace gravel + cobbles
(.5-2") subangular

10 feet

④ HS 2.8

⑤ HS 0.6

⑥ HS 3.2

Soil Description: _____

Soil Description: _____

Soil Description: _____

Same as 1

Same as 1

Same as 1

0 feet

⑦ HS 3.2

⑧ HS 3.6

⑨ HS 4.9

Soil Description: _____

Soil Description: _____

Soil Description: _____

Same as 1

Same as 1

Same as 1

0 feet

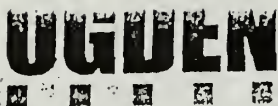
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02D
SAMPLER(S): F. ESQUIBEL DATE: (0-6") 11-12-96 (18-24")
REMARKS: Find BACK GROUND 0.0 ppm.

Sample Time: (0-6") Sample ID: (0-6")
0900 (18-24") B02 DBA (18-24")

VOC grab sample was collected from boring: #4

~10 feet

① HS 0.2 ppm

Soil Description: YELLOWISH
BROWN silt,
10% S
P

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.2 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 11.2 ppm

Soil Description: SAME
AS 1.

⑤ HS 2.9 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.5 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME INCLUSIONS, TRACES
OF SILT 10% S
P

0 feet

⑦ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
TRACE OF SILT, 10% S
P

⑧ HS 1.9 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HIS=Headspace PPM (0-6")

Hand Auger Log

AREA: 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02E

SAMPLER(S): TD, JD

DATE: 9/11/97

(0-6")

(18-24")

REMARKS:

Sample Time: All 1045, VOC 1055 (0-6")

Sample ID: B02EAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 25.7 ppm

② HS 2.7 ppm

③ HS 14.3 ppm

Soil Description: lt. brown

Soil Description: _____

Soil Description: _____

organic soil, trace
gravel, trace fine sand.

Same as #1

Same as #1

10 feet

④ HS 2.1 ppm

⑤ HS 2.8 ppm

⑥ HS 8.6 ppm

Soil Description: _____

Soil Description: _____

Soil Description: _____

Same as #1

Same as #1

Same as #1

0 feet

⑦ HS 3.4 ppm

⑧ HS 2.4 ppm

⑨ HS 3.3 ppm

Soil Description: _____

Soil Description: _____

Soil Description: _____

Same as #1

Same as #1

Same as #1

0 feet

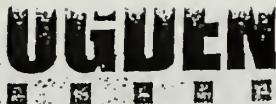
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 0.2

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02E
SAMPLER(S): J. Cipollini DATE: (0-6") 11-12-97 (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6") Sample ID: (0-6")
0932 (18-24") B02EBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
+ traces silt, 10Y 5/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, 10Y 5/4

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 2.1 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HIS=Headspace PPM (0-6")

Hand Auger Log

AREA: 2

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02F
 SAMPLER(S): TD, JD DATE: 9/11/97 (0-6") _____ (18-24")
 REMARKS: FID back ground 0-6" of 0.1 PPM

Sample Time: VOCs 1150, All 1140 (0-6") Sample ID: B02FAA (0-6")
 _____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 3.6 PPM

② HS 1.6 PPM

③ HS 1.9 PPM

Soil Description: Dark
brown organic, trace
gravel

Soil Description: _____
Same as #1

Soil Description: _____
Same as #1

10 feet

④ HS 1.5 PPM

⑤ HS 1.5 PPM

⑥ HS 1.3 PPM

Soil Description: _____
Same as #1

Soil Description: _____
Same as #1

Soil Description: _____
Same as #1

0 feet

⑦ HS 1.6 ppm

⑧ HS 1.4 PPM

⑨ HS 2.5 PPM

Soil Description: _____
Same as #1

Soil Description: _____
Same as #1

Soil Description: _____
Same as #1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 02F

SAMPLER(S): _____ DATE: _____ (0-6") 11-12-97 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1050 (18-24") B02FBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS _____

Soil Description Brownish
Yellow (10Y 6/6) SILT
trace fine SAND



HS _____

Soil Description Dark
Yellowish brown (10Y
4/6) Silt, trace fine
SAND



HS _____

Soil Description Same
as 1

10 feet



HS _____

Soil Description Same
as 2



HS _____

Soil Description Same
as 2



HS _____

Soil Description Dark
Yellowish brown (10Y
4/4) Silt, trace fine
SAND

0 feet



HS _____

Soil Description No
Sample



HS _____

Soil Description Same
as 2.



HS _____

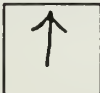
Soil Description Dark
Yellowish brown (10Y
4/4) Silt, trace fine
SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 026

SAMPLER(S): TD, JD

DATE: 9/11/97

(0-6")

(18-24")

REMARKS: New (tuned up) FID is used.

Sample Time: VOCs 1250, All 1240 (0-6")

Sample ID: B02 GAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0 PPM

② HS 0.0 PPM

③ HS 0.0 PPM

Soil Description: Dark
brown organic, trace
gravel.

Soil Description: Same
as #1

Soil Description: Same
as #1

10 feet

④ HS 0.0 PPM

⑤ HS 0.0 PPM

⑥ HS 0.0 PPM

Soil Description: Same
as #1

Soil Description: Same
as #1

Soil Description: Same
as #1

0 feet

⑦ HS 0.0 PPM

⑧ HS 0.0 PPM

⑨ HS 0.0 PPM

Soil Description: Same
as #1

Soil Description: Same
as #1

Soil Description: Same
as #1

0 feet

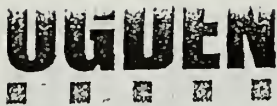
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 026
SAMPLER(S): T. Cipollini F. Escobar DATE: (0-6") 11-12-97 (18-24")
REMARKS: FID BACK GROUND

Sample Time: (0-6") Sample ID: (0-6:)
1148 (18-24") W6 BCGBA B02GBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND. 10Y 5/4

Soil Description: SAME AS
1.

Soil Description: UNABLE
TO COLLECT
SAMPLE AFTER 3
TRIES.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME SILT. 10Y 5/8

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME AS
4.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02H

SAMPLER(S): TD, JD

DATE: 9/15/97 (0-6")

(18-24")

REMARKS:

Sample Time: 1025VOCs, 1015 All (0-6")
(18-24")

Sample ID: B02HAA (0-6")
(18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 4.5

② HS 1.3

③ HS 0.0

Soil Description: Dark brown
organic, trace gravel.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

10 feet

④ HS 0.2

⑤ HS 1.2

⑥ HS 1.0

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: Light brown
organic, trace fine sand

0 feet

⑦ HS 1.7

⑧ HS 0.9

⑨ HS 2.4

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 6

Soil Description: _____
Same as 6.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 02H
SAMPLER(S): FE/JC DATE: (0-6") 11-12-97 (18-24")
REMARKS: FID Background - 0.0 ppm

Sample Time: (0-6") Sample ID: (0-6")
1435 (18-24") B02HBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0.0 ppm

Soil Description Yellowish
brown (10Y5/4) SILT
trace fine SAND



HS 0.0 ppm

Soil Description Same
as 1.



HS 0.0 ppm

Soil Description Same
as 1.

10 feet



HS 0.0 ppm

Soil Description Same
as 1.



HS 0.0 ppm

Soil Description Light
Yellowish brown
Sand, some SILT



HS 0.0 ppm

Soil Description Same
as 5.

0 feet



HS 0.0 ppm

Soil Description Same
as 1.



HS 0.0 ppm

Soil Description Same
as 5.



HS 0.0 ppm

Soil Description Same
as 5.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 021

SAMPLER(S): TD, JD

DATE: 9/11/97 (0-6")

(18-24")

REMARKS:

Sample Time: 1550 VOCs, 1540 All (0-6")
(18-24")

Sample ID: B021AA (0-6")
(18-24")

VOC grab sample was collected from boring: #4

8 feet

① HS 0.0 PPM

② HS 0.0 PPM

③ HS 0.0 PPM

Soil Description: Dark brown organic, trace gravel.

Soil Description: Light brown organic, some fine sand.

Soil Description: Same as 1.

10 feet

④ HS 0.1 PPM

⑤ HS 0.0 PPM

⑥ HS 0.0 PPM

Soil Description: Same as 2.

Soil Description: Same as 1

Soil Description: Same as 1

0 feet

⑦ HS 0.0 PPM

⑧ HS 0.0 PPM

⑨ HS 0.0 PPM

Soil Description: Same as 1

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02I
 J. Cipollini
 SAMPLER(S): F. Escabiel DATE: (0-6") 11-12-97 (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6") Sample ID: (0-6")
 1538 (18-24") BODIBA (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: Yellowish
 Brown fine sand,
 some silt.

Soil Description: SAME
 AS 1.

Soil Description: SAME
 AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
 AS 1.

Soil Description: SAME
 AS 1.

Soil Description: SAME
 AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
 AS 1.

Soil Description: SAME
 AS 1.

Soil Description: SAME
 AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02J

SAMPLER(S): TD, JD

DATE: 9/11/97 (0-6") (18-24")

REMARKS:

Sample Time: 1705 VOCs, 1650 All (0-6") (18-24")

Sample ID: B02JAA (0-6") (18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: Dark
brown organic, trace
gravel.

Soil Description: _____
Same as 1

Soil Description: _____
Same as 1

10 feet

④ HS 0.0 ppm

⑤ HS 3.2 ppm

⑥ HS 0.0 ppm

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

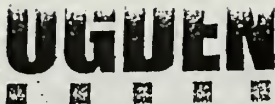
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02J
SAMPLER(S): J. Cipollini DATE: 11-12-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: 1611 (0-6") (18-24") Sample ID: B02JBA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

1	2	3
HS 0.0 ppm	HS 0.0 ppm	HS 0.0 ppm
Soil Description: YELLOWISH BROWN SILT, TRAIL OFF FINE SAND 10' 5"	Soil Description: YELLOWISH BROWN SAND, SOME SILT 10' 5"	Soil Description: SAME AS B02JBA

~10 feet

4	5	6
HS 0.0 ppm	HS 0.0 ppm	HS 0.0 ppm
Soil Description: SAME AS 1.	Soil Description: SAME AS 1.	Soil Description: SAME AS 1.

0 feet

7	8	9
HS 0.0 ppm	HS 0.0 ppm	HS 0.0 ppm
Soil Description: SAME AS 1.	Soil Description: SAME AS 1.	Soil Description: SAME AS 1.

0 feet ~10 feet ~10 feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02K

SAMPLER(S): TD, JD

DATE: 9/12/97 (0-6")

(18-24")

REMARKS:

Sample Time: VOCs 0825, All 0815 (0-6")
(18-24")

Sample ID: B02KAA (0-6")
(18-24")

VOC grab sample was collected from boring: #6

10 feet

① HS 0.0

Soil Description:

Dark brown organic,
trace sand

② HS 0.0

Soil Description:

Same as 1.

③ HS 0.0

Soil Description:

Same as 1.

10 feet

④ HS 0.0

Soil Description:

Same as 1.

⑤ HS 0.0

Soil Description:

Same as 1.

⑥ HS 13.6

Soil Description:

Dark brown organic,
light brown sand layer
approx. 3" deep

0 feet

⑦ HS 0.0

Soil Description:

Same as 1.

⑧ HS 0.0

Soil Description:

Same as 1.

⑨ HS 0.0

Soil Description:

Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 02K
SAMPLER(S): FE/JC DATE: 11-13-97 (0-6") (18-24")
REMARKS: FID Background

Sample Time: 0801 (0-6") (18-24") Sample ID: B02KBA (0-6") (18-24")

VOC grab sample was collected from boring: 9

10 feet



① HS _____
Soil Description Dark
Yellowish brown
(10Y 4/6) Silt

② HS _____
Soil Description Same
as /

③ HS _____
Soil Description Same
as /

10 feet



④ HS _____
Soil Description Same
as /

⑤ HS _____
Soil Description Same
as /

⑥ HS _____
Soil Description Same
as /

0 feet

⑦ HS _____
Soil Description Same
as /

⑧ HS _____
Soil Description Same
as /

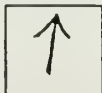
⑨ HS _____
Soil Description Grayish
brown Silt, trace
fine SAND (10Y 5/2)

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02L
SAMPLER(S): TD, JD DATE: 9/15/97 (0-6") (18-24")
REMARKS: _____

Sample Time: 1715 VOCs, 1700 All (0-6") Sample ID: B02LAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #2

10 feet

① HS 0.4

Soil Description: Dark brown
organic, trace medium
sand.

② HS 2.9

Soil Description: _____
Same as 1.

③ HS 0.0

Soil Description: _____
Same as 1.

10 feet

④ HS 0.4

Soil Description: _____
Same as 1.

⑤ HS 0.0

Soil Description: _____
Same as 1.

⑥ HS 0.0

Soil Description: _____
Same as 1.

0 feet

⑦ HS 1.6

Soil Description: _____
Same as 1.

⑧ HS 0.0

Soil Description: _____
Same as 1.

⑨ HS 0.0

Soil Description: _____
Same as 1.

0 feet

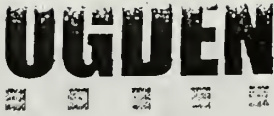
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 02L

SAMPLER(S): F. ESQUIBEL
J. CIPOLLINI

DATE: (0-6") 11-13-97 (18-24")

REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: (0-6")
0859 (18-24")

Sample ID: (0-6")
B02LBA (18-24")

VOC grab sample was collected from boring: #8 & 1031

~10 feet

① HS 0.0 ppm

Soil Description: DARK
GRAYISH BROWN SILT,
TRACE OF FINE SAND
10Y 4/2

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS

Soil Description: UNABLE
TO COLLECT SAMPLE

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.6 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT. 10Y 3/4

⑨ HS 0.0 ppm

Soil Description: SAME
AS 8.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02M
SAMPLER(S): TD, JD DATE: 9/15/97 (0-6") (18-24")
REMARKS:

Sample Time: 1820VOCs, 1810AII (0-6") Sample ID: B02MAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #2

10 feet

① HS 0.0

Soil Description: Light brown
organic, some fine sand,
trace medium sand

② HS 5.4

Soil Description: Same as 1.

③ HS 1.6

Soil Description: Same as 1.

10 feet

④ HS 0.4

Soil Description: Same as 1.

⑤ HS 2.4

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 4.7

Soil Description: Same as 1.

⑧ HS 2.2

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 02M
SAMPLER(S): FE/JC DATE: (0-6") 11-13-97 (18-24")
REMARKS: FID background 0.0 ppm

Sample Time: (0-6") Sample ID: (0-6")
1005 (18-24") B02MBA (18-24")

VOC grab sample was collected from boring: 6

10 feet

① HS 0.4 ppm
Soil Description Yellowish
brown (10Y 5/4) SILT,
trace fine SAND

② HS 0.0 ppm
Soil Description Yellowish
brown (10Y 5/6) fine
SAND

③ HS 0.0 ppm
Soil Description Same
as 2.

10 feet

④ HS 0.0 ppm
Soil Description Same
as 1

⑤ HS 0.0 ppm
Soil Description Same
as 4

⑥ HS 0.5 ppm
Soil Description Very
dark brown (10Y 3/2)
SILT

0 feet

⑦ HS 0.0 ppm
Soil Description Same
as 4.

⑧ HS 0.0 ppm
Soil Description Same
as 4.

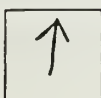
⑨ HS 0.0 ppm
Soil Description Same
as 4.

0 feet

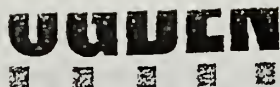
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02N
SAMPLER(S): TD, JD DATE: 9/15/97 (0-6") (18-24")
REMARKS: FID background 0.9ppm

Sample Time: 1155 VOCs, 1145 All (0-6") (18-24") Sample ID: BO2NAA (0-6") (18-24")

VOC grab sample was collected from boring: #9

10 feet

① HS 0.4

Soil Description: Dark brown
organic, trace gravel
trace medium sand.

② HS 0.1

Soil Description: _____
Same as 1.

③ HS 1.1

Soil Description: _____
Same as 1.

10 feet

④ HS 0.0

Soil Description: _____
Same as 1.

⑤ HS 0.2

Soil Description: _____
Same as 1.

⑥ HS 1.4

Soil Description: _____
Same as 1.

0 feet

⑦ HS 0.0

Soil Description: _____
Same as 1.

⑧ HS 0.1

Soil Description: _____
Same as 1.

⑨ HS 10.5

Soil Description: _____
Same as 1.

0 feet

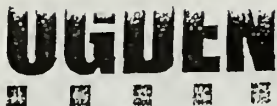
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 02N
SAMPLER(S): F. G. GRIFFIN DATE: (0-6") 11-B-97 (18-24")
REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: (0-6") Sample ID: (0-6")
1135 (18-24") B02N3A (18-24")

VOC grab sample was collected from boring: #1 @ 1304

~10 feet
1 HS 1.5 ppm
Soil Description: YELLOWISH
BROWN Silt TRAC
OF FINE SAND.

2 HS 0.0 ppm
Soil Description: SAME
AS 1.

3 HS 0.9 ppm
Soil Description: SAME
AS 1.

~10 feet
4 HS 0.0 ppm
Soil Description: SAME
AS 1.

5 HS 0.0 ppm
Soil Description: SAME
AS 1.

6 HS 0.0 ppm
Soil Description: SAME
AS 1.

0 feet
7 HS 0.0 ppm
Soil Description: SAME
AS 1.

8 HS 0.0 ppm
Soil Description: SAME
AS 1.

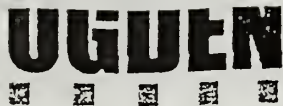
9 HS 0.0 ppm
Soil Description: SAME
AS 1.

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 2

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 020
SAMPLER(S): TD, JD DATE: 9/15/97 (0-6") (18-24")
REMARKS: FID background 0.9 ppm

Sample Time: VOCs 1345, All 1330 (0-6") Sample ID: B020AA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 1.2

Soil Description: Dark brown
organic, trace medium
sand

② HS 0.1

Soil Description: _____
Same as 1

③ HS 0.0

Soil Description: _____
Same as 1.

10 feet

④ HS 0.2

Soil Description: _____
Same as 1.

⑤ HS 0.4

Soil Description: _____
Same as 1

⑥ HS 0.9

Soil Description: _____
Same as 1

0 feet

⑦ HS 0.0

Soil Description: _____
Same as 1.

⑧ HS 0.3

Soil Description: _____
Same as 1.

⑨ HS 0.2

Soil Description: _____
Same as 1.

0 feet

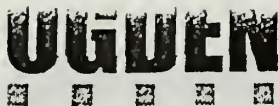
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 02

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 020

SAMPLER(S): J. Cipollini
F. Esquibel

DATE: (0-6") 11-13-97 (18-24")

REMARKS: FID DARK GROUND 0.0 ppm.

Sample Time: (0-6")
1241 (18-24")

Sample ID: (0-6")
B0203A (18-24")

VOC grab sample was collected from boring: #1 @ 1309

~10 feet

① HS 1.1 ppm

Soil Description: DARK
YELLOWISH BROWN
Silt, trace of fine
sand. 10% 4/4

② HS 0.9 ppm

Soil Description: SAME
AS 1.

③ HS 0.5 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.3 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
FINE SAND, SOME SILT
10% 4/4

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

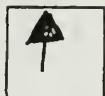
Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 03A

SAMPLER(S): JH/TD

DATE: 9/9/97

(0-6")

(18-24")

REMARKS: background is 0.2 PPM - headspace calculated above 0.2
Area is heavily cratered + littered with frag.

Sample Time: VOC: 905, All: 910 (0-6")

Sample ID: B03AAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

15 feet

① HS 0

② HS 0

③ HS 0.1

Soil Description: _____

Soil Description: _____

Soil Description: Same

same as 7, removed

same as 7

as 7

frag.

15 feet

④ HS 0

⑤ HS 0.1

⑥ HS 0

Soil Description: same

Soil Description: _____

Soil Description: _____

as 7

same as 7

same as 7

0 feet

⑦ HS 0

⑧ HS 0

⑨ HS 0

Soil Description: lt. orange-

Soil Description: same

Soil Description: _____

brown fine SAND, some

as 7

same as 7

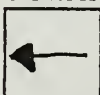
silt, organics, moist
cohesive, little yellow-brown
m-c SAND layers (1/2")

0 feet

15 feet

15 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 3A

SAMPLER(S): F. ESQUIBEL, J. CIPOLLINI DATE: (0-6") 11-7-97 (18-24")

REMARKS: FID BACK GROUND 0.0 - 1.0 ppm

Sample Time: (0-6")
0839 (18-24")

Sample ID: (0-6")
003 ADA (18-24")

VOC grab sample was collected from boring: none

~10 feet

① HS 1.9 ppm

Soil Description: DARK
BROWN SILT.
10Y 3/3

② HS 0.3 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
TRACE OF SILT.
10Y 5/6

~10 feet

④ HS 0.3 ppm

Soil Description: SAME
AS 3.

⑤ HS 0.4 ppm

Soil Description: SAME
AS 3.

⑥ HS 0.1 ppm

Soil Description: SAME
AS 3.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
3.

⑧ HS 0.7 ppm

Soil Description: SAME
AS 3.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 3.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 03B

SAMPLER(S): JH/ID

DATE: 9/9/97 (0-6")

(18-24")

REMARKS: area is cratered + littered with spent + ammo + frag.
background is 0 PPM

Sample Time: VOC 950, All 1000 (0-6")
(18-24")

Sample ID: B033AA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0

② HS 0

③ HS 0

Soil Description: lt. orange -
brown f SAND, some
silt, organics, moist
cohesive, some iron
staining, trace subangular
cobbles (1-3")

Soil Description: same

Soil Description: same

as 1

as 1

10 feet

④ HS 0

⑤ HS 0

⑥ HS 0

Soil Description: same

Soil Description: same

Soil Description: same

as 1

as 1

as 1

0 feet

⑦ HS 0

⑧ HS 0

⑨ HS 0

Soil Description: lt. yellow -

Soil Description: same as 7

Soil Description: same

brown c SAND, trace gravel +

as 1

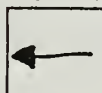
silt, organics, moist
loose

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

← TURPENTINE ROAD →

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 3 B
 SAMPLER(S): F. Esquivel, J. Cipolletti DATE: 11-7-97 (0-6") (18-24")
 REMARKS: FID BACK GROUND 0.0 ppm.

Sample Time: 0949 (0-6") (18-24") Sample ID: B0388A (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS _____

Soil Description: UNABLE
to collect sample
after 3 attempts.

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND
SOME SILT
104 $\frac{5}{8}$

③ HS 0.0 ppm

Soil Description: SAME
AS 2.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: Ø3C

SAMPLER(S): JH/TD

DATE: 9/9/97 (0-6")

(18-24")

REMARKS: area is cratered but heavily vegetated
background is Ø1PM

Sample Time: VOL 1030, ALL 1040 (0-6")
(18-24")

Sample ID: BØ3CAA (0-6")
(18-24")

VOC grab sample was collected from boring: Z

10 feet

① HS Ø

② HS 2.6

③ HS 2.2

Soil Description: Same

Soil Description: Same

Soil Description: Same

as 6

as 6

as 6

10 feet

④ HS 1.2

⑤ HS 0.2

⑥ HS 1.3

Soil Description: Same

Soil Description: Same

Soil Description: orange br.

as 7

as 6

f SAND, cohesive, organics
trace gravel + cobbles
(.5-1") subangular

0 feet

⑦ HS Ø

⑧ HS 0.2

⑨ HS Ø

Soil Description: lt br. f-m

Soil Description: Same as 7

Soil Description: Same

SAND, organics, sl. cohesive

as 7

cobbles (.5-3") subangular
to angular

0 feet

10 feet

10 feet

NORTH





HS=Headspace PPM (0-6")

← Turpentine Road →

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 3c
 SAMPLER(S): F. ESQUIBEL, J. CIPOLLINI DATE: 11-7-97 (0-6") (18-24")
 REMARKS: FID BACK GROUND

Sample Time: 1041 (0-6") (18-24") Sample ID: B03CBA (0-6") (18-24")
 VOC grab sample was collected from boring: None Collected

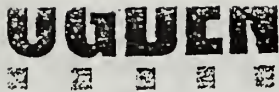
<u>~10</u> feet 	① HS <u>0.0 ppm</u> Soil Description: <u>YELLOWISH BROWN SILT, TRACE OF FIBES 10Y 5/8</u>	② IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	③ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	
	<u>~10</u> feet 	④ HS <u>0.0 ppm</u> Soil Description: <u>DARK YELLOWISH BROWN SILT, TRACE OF FIBES. 10Y 4/6</u>	⑤ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑥ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>
	0 feet	⑦ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑧ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑨ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>

0 feet ~10 feet ~10 feet

NORTH



IIS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 03D

SAMPLER(S): ID, JD

DATE: 9/15/97 (0-6") (18-24")

REMARKS:

Sample Time 0820 VOCs, 0810 All (0-6") (18-24")

Sample ID: B03 DAA (0-6") (18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0

Soil Description: Light brown
organic, trace medium
sand

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

NORTH

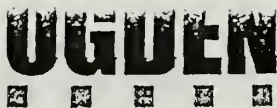


0 feet

10 feet

10 feet

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 3D
SAMPLER(S): F. ESQUIBEL, J. Cipollini DATE: (0-6") 11-7-97 (18-24")
REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: (0-6") Sample ID: (0-6")
1135 (18-24") B03DBA (18-24")

VOC grab sample was collected from boring: none

~5 feet (1) HS 0.0 ppm Soil Description: YELLOWISH BROWN FINE SAND, TRACE OF SILT.
(2) HS 0.0 ppm Soil Description: SAME AS 1.
(3) HS Soil Description: UNABLE TO COLLECT SAMPLE AFTER 3 ATTEMPTS

~5 feet (4) HS 0.0 ppm Soil Description: SAME AS 1.
(5) HS 0.0 ppm Soil Description: SAME AS 1.
(6) HS 0.0 ppm Soil Description: SAME AS 1.

0 feet (7) HS 0.0 ppm Soil Description: SAME AS 1.
(8) HS 0.0 ppm Soil Description: SAME AS 1.
(9) HS 0.0 ppm Soil Description: SAME AS 1.

0 feet ~5 feet ~5 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: Ø3E

SAMPLER(S): JH/TD

DATE: 9/9/97

(0-6")

(18-24")

REMARKS: Background is Ø

area is cratered and littered with frag.

Sample Time: VOC 1500, ALL 1510

(0-6")

Sample ID: BØ3EAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 6

10 feet

① HS Ø

② HS Ø

③ HS Ø

Soil Description: Same

Soil Description: Same

Soil Description: Same

as 8

as 7

as 7

10 feet

④ HS Ø

⑤ HS 1.5

⑥ HS 5.1

Soil Description: Same

Soil Description: Same as

Soil Description: Same

as 8

8

as 8

0 feet

⑦ HS Ø

⑧ HS 2.2

⑨ HS 0.2

Soil Description: brown

Soil Description: orangey

Soil Description: dk brown

sl. cohesive organic

br. cohesive organic

cohesive organic

soil, trace gravel

soil, trace gravel

soil

0 feet

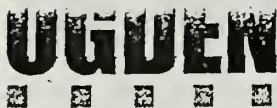
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 3E

SAMPLER(S): F. ESQUIBEL, J. Cipollini DATE: (0-6") 11-10-97 (18-24")

REMARKS: FID BACK GROUND 0.0 ppm

Sample Time: (0-6") 0718 (18-24")

Sample ID: (0-6") B03EBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND, TRACE
OF SILT, 10% S

② HS 0.0 ppm

Soil Description: SAME

AS 1.

③ HS 0.0 ppm

Soil Description: SAME

AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME

AS 1.

⑤ HS 0.0 ppm

Soil Description: YELLOWISH

BROWN SILT, TRACE
OF SAND, 10% S

⑥ HS 0.0 ppm

Soil Description: SAME

AS 5.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME

AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME

AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME

AS 5.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 03F

SAMPLER(S): SH/TO

DATE: 9/9/97 (0-6")

(18-24")

REMARKS: background
area has craters and frag.

Sample Time: VOC 1410, ^{SH} All 1420 (0-6")
(18-24")

Sample ID: B03FAA (0-6")
(18-24") ^{and B03FAD}

VOC grab sample was collected from boring: 8

10 feet

① HS 0
orange

Soil Description: lt brown
f-m SAND, cohesive
trace silt, organic

② HS 0

Soil Description: Same
as 1

③ HS 0

Soil Description: Same
as 1

10 feet

④ HS 0

Soil Description: Same
as 1

⑤ HS 0

Soil Description: Same
as 1

⑥ HS 0

Soil Description: Same
as 1

0 feet

⑦ HS 0

Soil Description: Same
as 1

⑧ HS 1-6

Soil Description: Same
as 1

⑨ HS 0

Soil Description: Same
as 1

0 feet

10 feet

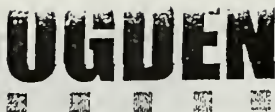
10 feet

NORTH



TANK
ALLEY
→

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 3F
SAMPLER(S): F. ESCHIGEL, J. CIPOLLINI DATE: (0-6") 11-10-97 (18-24")
REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: (0-6") Sample ID: (0-6")
0821 (18-24") BOFBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet ↑	① HS 0.0 ppm Soil Description: DARK YELLOWISH BROWN FINE SAND, SOME SILT. 10Y4/6	② HS 0.0 ppm Soil Description: GRAYISH BROWN SILT, TRACE OF FINE SAND. 10Y5/6	③ HS 0.0 ppm Soil Description: YELLOWISH BROWN SILT, TRACE OF FINE SAND. 10Y5/4
	~10 feet ↑	④ HS 0.0 ppm Soil Description: SAME AS 3.	⑤ HS Soil Description: UNABLE TO COLLECT SAMPLE AFTER 3 TRIES.
0 feet	⑦ HS 0.0 ppm Soil Description: SAME AS 2.	⑧ HS 0.0 ppm Soil Description: SAME AS 4.	⑨ HS 0.0 ppm Soil Description: SAME AS 1.
0 feet	→ ~10 feet	→ ~10 feet	→ ~10 feet

NORTH

HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: Φ3G

SAMPLER(S): JH / TD

DATE: 9/9/97 (0-6") B03GAA^{SH} (18-24")

REMARKS: background is 1.9 PPM

Sample Time: VOC 1325, ALL 1330 (0-6")
(18-24")

Sample ID: B03GAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS Φ

Soil Description: orange brown
dense silty fine sand
with organics

② HS Φ

Soil Description: Same as 1

③ HS Φ

Soil Description: Same
as 1

10 feet

④ HS Φ

Soil Description: Same
as 1

⑤ HS Φ

Soil Description: brown
f-m SAND, trace silt
and organics

⑥ HS Φ

Soil Description: Same
as 1

0 feet

⑦ HS Φ

Soil Description: Same
as 5

⑧ HS Φ

Soil Description: same
as 5

⑨ HS Φ

Soil Description: yellow brown
m SAND, some f SAND
and c sand, very
cohesive, gravel and
cobbles < 1"

0 feet

10 feet

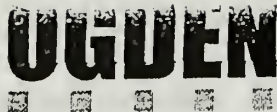
10 feet

NORTH



HS=Headspace PPM (0-6")

TANK
ALLEY
→



Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 3G

SAMPLER(S): F. ESQUIBEL, J. CIPOLLINI DATE: (0-6") 11-10-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6") 0910 (18-24")

Sample ID: (0-6") B036BA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
+ TRACE OF SILT.
10Y 5/4

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
FINE SAND, 10Y 5/4

③ HS 0.0 ppm

Soil Description: SAME
AS 2.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 4.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 03

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 03H
 SAMPLER(S): T. DYER, J. Cipollini DATE: 10-28-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0850 (0-6") Sample ID: B03HAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #9

~10 feet ↑	① HS 0.0 ppm Soil Description: DARK YELLOWISH BROWN SILT, SOME SAND 1:1 1/4	② HS 0.0 ppm Soil Description: SAME AS 1.	③ HS 0.0 ppm Soil Description: SAME AS 1.	
	~10 feet ↑	④ HS 0.0 ppm Soil Description: SAME AS 1.	⑤ HS 0.0 ppm Soil Description: SAME AS 1.	⑥ HS 0.0 ppm Soil Description: YELLOWISH BROWN SAND, SOME SILT 1:1 1/4
	0 feet	⑦ HS 0.0 ppm Soil Description: SAME AS 1.	⑧ HS 0.0 ppm Soil Description: SAME AS 1.	⑨ HS 3.9 ppm Soil Description: SAME AS 1.

NORTH



0 feet → ~10 feet → ~10 feet

HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID:

H

SAMPLER(S): F. Esau, J. Ferrant

DATE:

(0-6")

1-29-98

(18-24")

REMARKS: J. Ferrant

Sample Time:

(0-6")

Sample ID:

(0-6")

1345

(18-24")

B03H3A

(18-24")

VOC grab sample was collected from boring.

10 feet

① HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

② HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

③ HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

10 feet

④ HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

⑤ HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

⑥ HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

0 feet

⑦ HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

⑧ HS 0.0

Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

⑨ HS 0.0

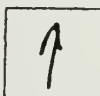
Soil Description: 10 yr
1/4 dark yellowish
brown fine sand

0 feet

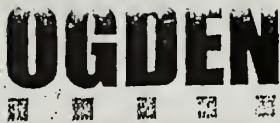
10 feet

10 feet

NORTH



HS Headpace PPM (0-6")



Hand Auger Log

AREA: 03

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 03I

SAMPLER(S): J. DWYER, J. CIPRIANO DATE: 10-28-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1026 (0-6") (18-24")

Sample ID: B03IAA (0-6") (18-24")

VOC grab sample was collected from boring: # 5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILTY, TRACE OF
FINES, 10% ±

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 03

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 03I
SAMPLER(S): FE/JF DATE: (0-6") 1-29-98 (18-24")
REMARKS:

Sample Time: (0-6") Sample ID: (0-6")
1130 (18-24") B03IBA (18-24")

VOC grab sample was collected from boring: 5.

10 feet

① HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/6) Fine SAND

② HS 0.0

Soil Description Same
as 1

③ HS 0.0

Soil Description Light
Olive brown (2.5Y 5/4)
Silty Clay

10 feet

④ HS 0.0

Soil Description Same
as 1

⑤ HS 0.0

Soil Description Light
Olive brown (2.5Y 5/3)
Clayey silt

⑥ HS

Soil Description No
Sample

0 feet

⑦ HS 0.0

Soil Description Same
as 3.

⑧ HS 0.0

Soil Description Dark
Yellowish brown (10YR
4/6) Clayey silt

⑨ HS 0.0

Soil Description Light
Olive brown (2.5Y 5/4)
Fine SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 035

SAMPLER(S): JH/TD

DATE: 9/10/97 (0-6")

(18-24")

REMARKS:

Sample Time: VOC 1200, ALL 1145 (0-6")

Sample ID: B63JAA (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 2.2

② HS 0.2

③ HS 1.0

Soil Description: dk. brown
fine organic soil,
cohesive, cobbles
1-3" subrounded

Soil Description: lt yellow
brown f-m SAND
trace gravel & sand,
organics

Soil Description: same
as 1

10 feet

④ HS 1.7

⑤ HS 3.1

⑥ HS 0

Soil Description: same
as 1

Soil Description: same as 1

Soil Description: same as 2

0 feet

⑦ HS 2.3

⑧ HS 0.8

⑨ HS 1.4

Soil Description: same as 1

Soil Description: same as 1

Soil Description: same as 1

0 feet

10 feet

10 feet

NORTH

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 3J
SAMPLER(S): F. CSU410E1, J. Cipdlin DATE: 11-10-97 (0-6") (18-24")
REMARKS: FIND BACKGROUND 0.0 ppm

Sample Time: 1017 (0-6") (18-24") Sample ID: B03JBA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

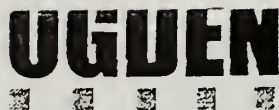
<u>~10</u> feet ↑	① HS <u>0.0 ppm</u> Soil Description: <u>DARK BROWN silt, trace OF FINE SAND.</u> <u>10Y 3/3</u>	② HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>
	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>
	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: Ø3K
SAMPLER(S): JH/TD DATE: 9/10/97 (0-6") (18-24")

REMARKS: area is heavily cratered
FID Flame went out - remeasured 1, 2, 3

Sample Time: VOC 1100, ALL 1045 (0-6") Sample ID: BØ3KAA (0-6")
(18-24") (18-24")

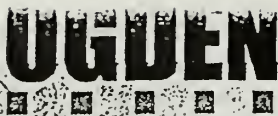
VOC grab sample was collected from boring: 3 (impact crater location)

	10 feet	5.2	10.5
1	HS <u>Ø</u>	2 HS <u>Ø</u>	3 HS <u>Ø</u>
Soil Description:	<u>d. brown</u>	<u>same</u>	<u>same as 1</u>
	<u>fine organic soil</u>	<u>as 1</u>	
	<u>cohesive</u>		
10 feet	4 HS <u>3.7</u>	5 HS <u>Ø</u>	6 HS <u>Ø.7</u>
Soil Description:	<u>same as 1</u>	<u>same as 1</u>	<u>same as 1</u>
0 feet	7 HS <u>7.5</u>	8 HS <u>1.4</u>	9 HS <u>1.1</u>
Soil Description:	<u>same as 1</u>	<u>same as 1</u>	<u>same as 1</u>
0 feet	10 feet	10 feet	10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 3k

SAMPLER(S): F. EsQUIBEL, J. Cipdlin DATE: (0-6") 11-10-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: (0-6")
1109 (18-24")

Sample ID: (0-6")
B03KBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND
10Y 5/6

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: DARK
YELLOWISH
BROWN FINE
SAND, SOME SILT
10Y 4/4

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 03L

SAMPLER(S): JH/TD

DATE: 9/10/97 (0-6")

(18-24")

REMARKS: background 0.0 PPM

Sample Time: VOC ⁹⁴⁵ 930 ALL 930 (0-6")
(18-24")

Sample ID: B03LAA (0-6")
(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0

Soil Description: dk. brown
organic soil, trace
gravel

② HS 0.0

Soil Description: Same
as 1

③ HS 0.0

Soil Description: lt. orange
br. & SAND, some M-C
sand, trace gravel, moist
cohesive

10 feet

④ HS 0.0

Soil Description: Same
as 1

⑤ HS 0.0

Soil Description: Same
as 3

⑥ HS 0.0

Soil Description: Same
as 1

0 feet

⑦ HS 0.0

Soil Description: Same
as 1

⑧ HS 0.0

Soil Description: Same
as 1

⑨ HS 0.0

Soil Description: Same
as 6

0 feet

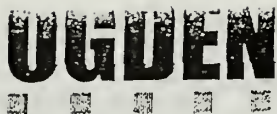
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 3 L
SAMPLER(S): F. ESQUIBEL, J. CIPOLLINI DATE: (0-6") 11-10-97 (18-24")
REMARKS: FID BACKGROUND 0.0 PPM.

Sample Time: (0-6") Sample ID: (0-6")
1453 (18-24") B.03 LBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND,
10Y 5
6

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
TRACE OF SILT.
10Y 5
4

③ HS 0.0 ppm

Soil Description: SAME
AS 2.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

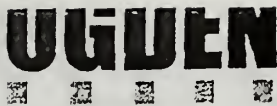
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: Φ 3 M

SAMPLER(S): JH/TO

DATE: 9/10/97 (0-6") (18-24")

REMARKS: heavily cratered + vegetated
background is 0.4 PPM

Sample Time: VOC 1245, ALL 1235 (0-6") (18-24")

Sample ID: Φ 3 MAA (0-6") (18-24")

VOC grab sample was collected from boring: 9

10 feet

① HS 0.5

② HS Φ

③ HS 0.1

Soil Description: dk. brown

Soil Description: _____

Soil Description: _____

Fine organic soil,

same as 1

same as 1

cubazine, trace gravel

cutters (1.5-3") subrounded

10 feet

④ HS 0.4

⑤ HS 1.4

⑥ HS 2.4

Soil Description: _____

Soil Description: _____

Soil Description: _____

same as 1

same as 1

same as 1

0 feet

⑦ HS 1.1

⑧ HS 1.2

⑨ HS 3.0

Soil Description: _____

Soil Description: _____

Soil Description: _____

same as 1

same as 1

same as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 3 M

SAMPLER(S): F. EsQUIBEL, J. Cipolini DATE: (0-6") 11-10-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6")
1359 (18-24")

Sample ID: (0-6")
B03MBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: DARK
BROWN SILT, TRACE
OF FINE SAND.
10% $\frac{3}{4}$

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND, SOME
SILT. 10% $\frac{5}{4}$

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: Φ3N

SAMPLER(S): JH/ID

DATE: 9/10/97 (0-6")

(18-24")

REMARKS: area is cratered + densely vegetated, littered w/ frag.

Sample Time: VOC 930, All 845 (0-6")
(18-24")

Sample ID: BΦ3NAA (0-6")
(18-24")

VOC grab sample was collected from boring: 8

10 feet

① HS 1.1

Soil Description: brown fine organic soil, trace gravel, cohesive

② HS Φ

Soil Description: Same as 1

③ HS 5.7

Soil Description: Same as 1

10 feet

④ HS Φ

Soil Description: same as 1

⑤ HS 2.3

Soil Description: same as 1

⑥ HS 2.2

Soil Description: same as 1

0 feet

⑦ HS 4.1

Soil Description: same as 1

⑧ HS 15.0

Soil Description: same as 1

⑨ HS Φ

Soil Description: same as 1

0 feet

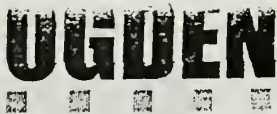
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 3N

SAMPLER(S): F. ESQUIBEL, J. Cipollini DATE: 11-10-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1546 (0-6") (18-24")

Sample ID: B03NBA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND.
10% S₁

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH





HIS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 030
 SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-28-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN.

Sample Time: 0950 (0-6") Sample ID: B030AA/B030AD (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>~10</u> feet 	① HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN</u> <u>SILT IN CEFFINES</u> <u>10Y4/6</u>	② HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1</u>	
	<u>~10</u> feet 	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
	0 feet 	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 03

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 0 + Dup

SAMPLER(S): KD, FE, + JF

DATE: (0-6") 1-29-98 (18-24")

REMARKS: COLLECTED DUPLICATE

Sample Time: 1100 (0-6") (18-24")

Sample ID: B0303A (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

Soil Description: 10YR 4/3

BROWN

FINE-MED. SAND

② HS 0.0

Soil Description: 10YR 4/4

DK. YELLOWISH BR.

CLAYEY SILT

③ HS 0.0

Soil Description: 10YR 4/4

Dark Yellowish Brown

fine sands

10 feet

④ HS 0.0

Soil Description: 10YR 4/4

Dark Yellowish

Brown fine sands

⑤ HS 0.0

Soil Description: 10YR 4/4

Dark Yellowish

Brown fine sands

⑥ HS 0.0

Soil Description: 10YR 4/3

BROWN-FINE-

MED. SAND w/ SILT

0 feet

⑦ HS 0.0

Soil Description: 2.5Y 5/3

LT. OLIVE BR.

FINE-MED. SAND

⑧ HS 0.0

Soil Description: 2.5Y 5/3

LT. OLIVE BR.

SILTY CLAY

⑨ HS 0.0

Soil Description: 10YR 4/4

Dark Yellowish

Brown fine sands

0 feet

10 feet

10 feet

NORTH



HS - Headspace PPM (0-6")



Hand Auger Log

AREA: 04

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 04A

SAMPLER(S): TD/JC DATE: 10-21-97 (0-6") (18-24")

REMARKS: Boring holes are 8' apart along top of target mound, FID = 0

Sample Time: 0900 (0-6") Sample ID: B04AAT (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0 ppm
Soil Description Light
Yellowish brown med
SAND, some fines
and gravel

② HS 0.0 ppm
Soil Description Same
as 1

③ HS 0.0 ppm
Soil Description Same
as 1

10 feet

④ HS 0.0 ppm
Soil Description Same
as 1

⑤ HS 0.0 ppm
Soil Description Same
as 1

⑥ HS 0.0 ppm
Soil Description Same
as 1

0 feet

⑦ HS 0.0 ppm
Soil Description Same
as 1

⑧ HS 0.0 ppm
Soil Description Same
as 1

⑨ HS 0.0 ppm
Soil Description Same
as 1

0 feet

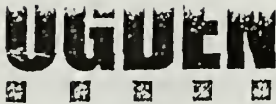
8 feet

8 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 4

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 4A
SAMPLER(S): J. Cipollini/J. Desmond DATE: _____ (0-6") 1-8-97 (18-24")
REMARKS: FID BACK GROUND 0.0 ppm

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1537 (18-24") B04ABA (18-24")

VOC grab sample was collected from boring: 5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: YELLOISH
BROWN SAND, TRACE
TO SOME SILT

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

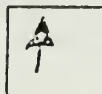
Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH





HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 04B
 SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-21-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1145 (0-6") Sample ID: B04ABA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #8

<u>~10</u> feet 	① HS <u>0.0</u> ppm Soil Description: <u>YELLOWISH</u> <u>BROWN MEDIUM TO FINE</u> <u>SAND 10 Y 6</u>	② HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	③ HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	
	<u>~10</u> feet 	④ HS <u>0.0</u> ppm Soil Description: <u>SAME AS</u> <u>1.</u>	⑤ HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	⑥ HS <u>0.4</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>
	0 feet 	⑦ HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	⑧ HS <u>0.6</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	⑨ HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 4

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: B
SAMPLER(S): J. Cipolini/J. Desmond DATE: 1-8-98 (0-6") 1-8-98 (18-24")
REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
VCL: 1135 1110 (18-24") B0488A (18-24")

VOC grab sample was collected from boring: 5

~10 feet

① HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SAND, TRACE OF SILT
10/4/4

② HS 0.0 ppm

Soil Description: SAME
AS 1

③ HS 0.0 ppm

Soil Description: SAME AS
1

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1

⑤ HS 0.0 ppm

Soil Description: SAME AS
1

⑥ HS 0.0 ppm

Soil Description: SAME AS
1

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1

⑧ HS 0.0 ppm

Soil Description: SAME AS
1

⑨ HS 0.0 ppm

Soil Description: SAME AS
1

NORTH



0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 04

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 04C
 SAMPLER(S): T. DWYER, J. Cipollino DATE: 10-31-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND OF 0.0 ppm.

Sample Time: 1315 hrs, 1310 ALLEGE (0-6") Sample ID: B04ACA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5

~10 feet



① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN MEDIUM TO FINE
SAND, TRACE OF SILT
10% S

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet



④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME AS
1.

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME AS
1.

⑨ HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 4

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: C
SAMPLER(S): J. Cipolletti/J. Desha DATE: 1-8-97 (0-6") (18-24")
REMARKS: FID

Sample Time: 1221 (0-6") (18-24") Sample ID: B04CBA (0-6") (18-24")

VOC grab sample was collected from boring: 5

~10 feet

① HS 0.0 ppm

② IIS 0.0

③ HS 0.0

Soil Description: YELLOWISH

Soil Description: SAME

Soil Description: SAME

BROWNS SAND, TRACE AS 1

AS 1

OF SILT

10% S
4

~10 feet

④ HS 0.0

⑤ IIS 0.0

⑥ HS 0.0

Soil Description: SAME

Soil Description: SAME

Soil Description: SAME

AS 1

AS 1

AS 1

0 feet

⑦ HS 0.0

⑧ IIS 0.0

⑨ HS 0.0

Soil Description: VERY

Soil Description: SAME

Soil Description: SAME

DARK-BROWN SILT

AS 1

AS 1

TRACE OF SAND

10% S
2

0 feet

~10 feet

~10 feet

NORTH



IIS=1 leadspace PPM (0-6")

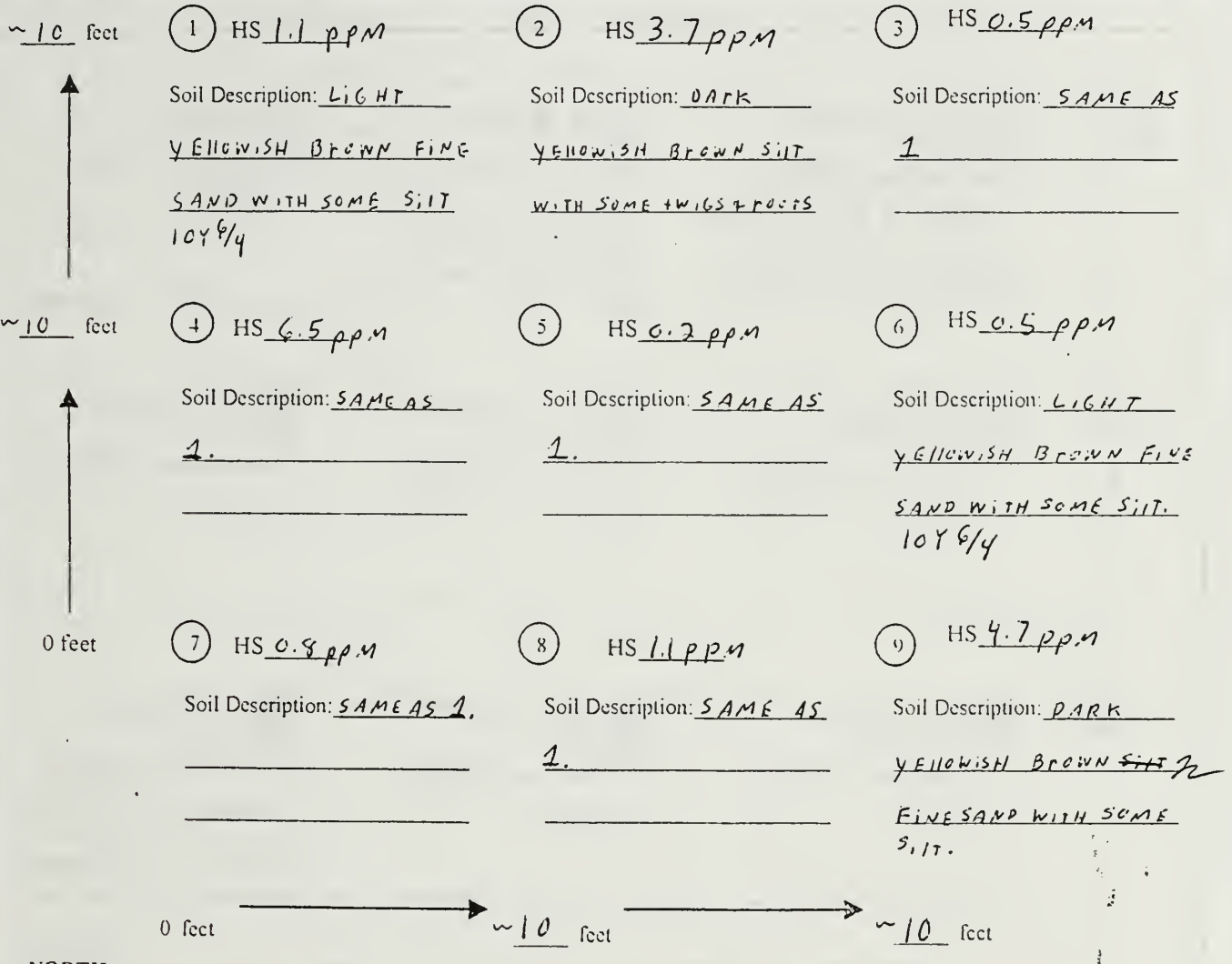
Hand Auger Log

AREA: 04

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 04D
 SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-21-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1415 (0-6") Sample ID: BOYADA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 2



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 4

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 04D
SAMPLER(S): JC/JD DATE: 1-8-98 (0-6") (18-24")
REMARKS: FID background - 0.0 ppm

Sample Time: 1510 (0-6") (18-24") Sample ID: B04DBA (0-6") (18-24")
VOC grab sample was collected from boring: 5

10 feet



① HS 0.0 ppm
Soil Description Dark
Yellowish brown (10Y
3/4) SILT some SAND

② HS 0.0 ppm
Soil Description Dark
Yellowish brown (10Y
4/6) SAND, some SILT

③ HS 0.0 ppm
Soil Description Same
as 2.

10 feet



④ HS 0.0 ppm
Soil Description Same
as 2

⑤ HS 0.0 ppm
Soil Description Same
as 1

⑥ HS 0.0 ppm
Soil Description Same
as 1

0 feet

⑦ HS 0.0 ppm
Soil Description Same
as 2

⑧ HS 0.0 ppm
Soil Description Same
as 2

⑨ HS 0.0 ppm
Soil Description Light
olive brown (2.5Y
5/4) SILT, some SAND

0 feet



10 feet



10 feet

NORTH



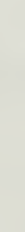


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: B04AEA
 SAMPLER(S): Tim D, Jerry C DATE: 10-21-97 (0-6") (18-24")
 REMARKS: FID background of 0.0 ppm.

Sample Time: 1050 VOCs, 1040 All else (0-6") Sample ID: B04AEA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #6

~10 feet 	(1) HS <u>0.0</u> ppm Soil Description: <u>Medium sand</u> <u>with fines, some</u> <u>Gravel. 101%</u>	(2) HS <u>0.0</u> ppm Soil Description: <u>SAME AS</u> <u>1.</u>	(3) HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>
~10 feet 	(4) HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	(5) HS <u>0.0</u> ppm Soil Description: <u>SAME AS</u> <u>1.</u>	(6) HS <u>2.3</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>
0 feet 	(7) HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	(8) HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>	(9) HS <u>0.0</u> ppm Soil Description: <u>SAME</u> <u>AS 1.</u>
0 feet	→ ~10 feet	→ ~10 feet	

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 4

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 04E
SAMPLER(S): JC/JD DATE: 1-9-98 (0-6") (18-24")
REMARKS: FID Background - 0.0 ppm

Sample Time: 0825 (0-6") (18-24") Sample ID: B04EBA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0 ppm
Soil Description Yellowish
brown (10Y 5/4) SAND
Some Silt.

② HS 0.0 ppm
Soil Description Same
as 1

③ HS 0.0 ppm
Soil Description Same
as 1

10 feet

④ HS 0.0 ppm
Soil Description Yellowish
brown (10Y 5/6) SILT
trace Sand

⑤ HS 0.0 ppm
Soil Description Same
as 4.

⑥ HS 0.0 ppm
Soil Description Same
as 4.

0 feet

⑦ HS 0.0 ppm
Soil Description Same
as 1.

⑧ HS 0.0 ppm
Soil Description Same
as 1

⑨ HS 0.0 ppm
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 04

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 04 F

SAMPLER(S): T. DWYER, J. C. POLINI DATE: 10-21-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1514 (0-6") (18-24")

Sample ID: B04AFA (0-6") (18-24")

VOC grab sample was collected from boring: 7

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT WITH A TRACE
OF FINE SAND. 10Y 5/6

② HS 0.0 ppm

Soil Description: _____
SAME AS 1.

③ HS 1.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT WITH A
TRACE OF FINE SAND.
10Y 5/4

⑥ HS 0.0 ppm

Soil Description: _____
SAME AS 1

0 feet

⑦ HS 1.5 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME AS
5.

⑨ HS 0.1 ppm

Soil Description: SAME AS
5

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 4

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: F
SAMPLER(S): J. CIPRIANI / J. DESMOR DATE: 1-9-98 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 0937 (0-6") (18-24") Sample ID: B04FBA (0-6") (18-24")

VOC grab sample was collected from boring: S

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWNISH SILT, TRACE
OF SAND 10Y 5/6

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND,
TRACE OF SILT
10Y 5/6

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: OLIVE
BROWN SAND, SOME
SILT
2.5Y 4/3

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 4

⑧ HS 0.0 ppm

Soil Description: SAME
AS 4

⑨ HS 0.0 ppm

Soil Description: SAME
AS 4

0 feet

~10 feet

~10 feet



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: 04

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 04GSAMPLER(S): Tim Dwyer, K. Sotnik DATE: 12/18/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 0915 (0-6") (18-24")Sample ID: B04GAA (0-6") (18-24")VOC grab sample was collected from boring: #210 feet① HS 0.0Soil Description: Organic,
Trace medium sand, some fines
Dusky red 2.5 YR 3/2② HS 1.5Soil Description: Same as 1.③ HS 0.0Soil Description: Same as 1.10 feet④ HS 0.2Soil Description: Same as 1.⑤ HS 0.0Soil Description: Same as 1.⑥ HS 0.7Soil Description: Same as 1.

0 feet

⑦ HS 0.0Soil Description: Same as 1.⑧ HS 0.3Soil Description: Same as 1.⑨ HS 0.7Soil Description: Same as 1.

0 feet

10 feet10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA:

4

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 046

SAMPLER(S): WG/KM

DATE: (0-6") 3-11-98 (18-24")

REMARKS:

Sample Time: (0-6") 15:00 (18-24")

Sample ID: (0-6") B046BA (18-24")

VOC grab sample was collected from boring: —

10 feet

① HS 0

Soil Description: Pale brown
(10YR 6/3) v fine
SAND and SILT
trace clay

② HS 0

Soil Description: brownish
yellow (10YR 5/6)
fine SAND, some SILT,
clay and organics

③ HS 0

Soil Description: Same as 1

10 feet

④ HS 0

Soil Description: Same as 1

⑤ HS 0

Soil Description: Same as 1

⑥ HS 0

Soil Description: Same as 1

0 feet

⑦ HS 0

Soil Description: Yellowish
brown (10YR 5/4) fine
SAND and SILT, trace
clay

⑧ HS 0

Soil Description: Same as 1

⑨ HS 0

Soil Description: Same as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05A
SAMPLER(S): JC/FE DATE: 1-15-98 (0-6") (18-24")
REMARKS: FID Background - 0.0 ppm

Sample Time: 0931 (0-6") Sample ID: B05AAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: —

10 feet

① HS 0.0

Soil Description Dark
yellowish brown
(10 3/4) Soil, trace
SAND

② HS 0.0

Soil Description Same
as 1.

③ HS 0.0

Soil Description Same
as 1.

10 feet

④ HS 0.0

Soil Description Same
as 1.

⑤ HS 0.0

Soil Description Same
as 1.

⑥ HS 0.0

Soil Description Dark
yellowish brown (10 3/4)
Soil, trace Sand

0 feet

⑦ HS 0.0

Soil Description Same
as 6.

⑧ HS 0.0

Soil Description Same
as 6.

⑨ HS 0.0

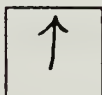
Soil Description Same
as 6.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05A

SAMPLER(S): BG/KM DATE: 3-9-98 (0-6") (18-24")

REMARKS: Obstructions in Samples 5 and 8

Sample Time: 14:00 (0-6") (18-24")

Sample ID: B05ABA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0

Soil Description Light
olive brown (2.5Y
6/6) fine SAND and SILT



HS 0

Soil Description olive
yellow (2.5Y 6/8) fine
SAND and SILT



HS 0

Soil Description Same
as 1

10 feet



HS 0

Soil Description Same
as 1



HS —

Soil Description No
Sample



HS 0

Soil Description Same
as 1

0 feet



HS 0

Soil Description Light
olive brown (2.5Y 5/6)
fine SAND, some SILT
and gravel



HS —

Soil Description No
Sample



HS 0

Soil Description Light
olive brown (2.5Y 5/6)
fine SAND and SILT,
some gravel

0 feet

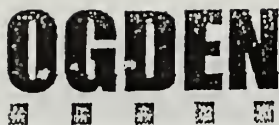
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: B

SAMPLER(S): J. L. F. E. S. G. M. P. E. L. DATE: BOSBAA (0-6") (18-24")

REMARKS:

1-15-98

(SAMI)

Sample Time: 1045 (0-6") (18-24")

Sample ID: BOSBAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

~10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: DARK
YELLOWISH BROWN
Silt, Sand Inclusions
10 1/4"

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inclusion

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inclusions

~10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inc.

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inc.

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inc.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inc.

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inc.

Soil Description: 10 1/4"
Dark Yellowish Brown
Silt, Sand Inc.

0 feet

~10 feet

~10 feet

NORTH



HS Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05B

SAMPLER(S): BG/KM DATE: _____ (0-6") 3-10-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0805 (18-24")

Sample ID: _____ (0-6")
B05BBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description Light
Olive brown (2.5 y 5%)
Fine SAND, some
Silt and Gravel

② HS 0

Soil Description Same
as 1.

③ HS 0

Soil Description Same
as 1.

10 feet

④ HS 0

Soil Description Light
Olive brown (2.5 y
5%) Fine SAND and SILT
Some gravel and organics

⑤ HS 0

Soil Description Same
as 1

⑥ HS 0

Soil Description Light +
Olive brown (2.5 y 5%)
Fine SAND, some SILT
as Sand and gravel

0 feet

⑦ HS 0

Soil Description Light
Olive brown (2.5 y 5%)
Fine SAND, and SILT, some
Gravel and organics

⑧ HS 0

Soil Description Same
as 1

⑨ HS 0

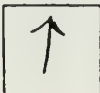
Soil Description Same
as 4.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05C

SAMPLER(S): JC/FE DATE: 1-15-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1123 (0-6") Sample ID: B05CAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description Dark
Yellowish brown (10Y4/4)
SAND, some SILT

② HS 0.0

Soil Description Same
as 1

③ HS 0.0

Soil Description Same
as 1

10 feet

④ HS 0.0

Soil Description Same
as 1

⑤ HS 0.0

Soil Description Same
as 1

⑥ HS 0.0

Soil Description Same
as 1

0 feet

⑦ HS 0.0

Soil Description Same
as 1

⑧ HS 0.0

Soil Description Same
as 1

⑨ HS 0.0

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 05C
 SAMPLER(S): WG/KM DATE: 3-9-98 (0-6") (18-24")
 REMARKS: Obstruction in Sample #1

Sample Time: 16:00 (0-6") (18-24") Sample ID: B050BA (0-6") (18-24")

VOC grab sample was collected from boring: —

10 feet

(1) HS —

Soil Description: N.S.

(2) HS 0

Soil Description: 2.5 Y 5/6
light olive brown fine
to med SAND, some
SILT, trace gravel

(3) HS 0

Soil Description: Same as 2

10 feet

(4) HS 0

Soil Description: Same as 2

(5) HS 0

Soil Description: Same as 2

(6) HS 0

Soil Description: Same as 2

0 feet

(7) HS 0

Soil Description: Same as 2

(8) HS 0

Soil Description: Same as 2

(9) HS 0

Soil Description: 2.5 Y 3/3
Dark olive brown
fine to med SAND, some
SILT and gravel, trace
organics

0 feet

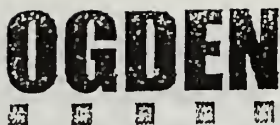
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: D

SAMPLER(S): KD + FE

DATE: BOSDAA

(0-6")

(18-24")

1-19-98

REMARKS:

Sample Time: ~~11:55~~ 9:30 (0-6")
(18-24")

Sample ID: BOSDAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 10YR4/4

Soil Description: 7.5YR4/3

Soil Description: 7.5YR4/3

DARK YELLOWISH BR BROWN
VERY FINE SAND SILT FINE SAND

BROWN
FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 7.5YR4/3

Soil Description: 7.5YR4/3

Soil Description: 7.5YR4/3

BROWN
FINE SAND

BROWN
FINE SAND

BROWN
FINE SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 7.5YR4/3

Soil Description: 7.5YR4/3

Soil Description: 7.5YR4/3

BROWN
FINE SAND

BROWN
FINE SAND

BROWN
FINE SAND

0 feet

10 feet

10 feet

NORTH



HS Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 05 D

SAMPLER(S): BG/KM

DATE: _____ (0-6") 3-10-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
10:20 (18-24")

Sample ID: _____ (0-6")
B05DBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

(1) IIS _____

(2) IIS _____

(3) IIS _____



Soil Description: light olive brown (2.5Y 5/6) fine to med SAND, some SILT trace gravel

Soil Description: Same as 1

Soil Description: Same as 1

10 feet

(4) IIS _____

(5) IIS _____

(6) IIS _____



Soil Description: Same as 1

Soil Description: light olive brown (2.5Y 5/6) fine to med SAND, some SILT and gravel

Soil Description: Same as 1

0 feet

(7) IIS _____

(8) IIS _____

(9) IIS _____

Soil Description: Same as 1

Soil Description: Same as 5

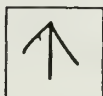
Soil Description: olive yellow (2.5Y 6/6) fine SAND trace SILT and gravel

0 feet

10 feet

10 feet

NORTH



IIS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: E

SAMPLER(S): KD + FE

DATE: BOSEAA (0-6")

(18-24")

REMARKS:

1-18-98

Sample Time: 9:30 (0-6")

Sample ID: BOSEAA (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 10YR 4/4

Soil Description: 10YR 4/4

Soil Description: 10YR 4/4

DARK YELLOWISH BR DARK YELLOWISH BR DARK YEL. BR
VERY FINE SAND CLAYEY SILT VERY FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 10YR 4/4

Soil Description: 10YR 4/4

Soil Description: 10YR 2.5/3

DARK YELLOWISH BR DARK YELLOWISH BR DARK BROWN
VERY FINE SAND VERY FINE SAND/SILT FINE SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 10YR 4/4

Soil Description: 10YR 4/4

Soil Description: 10YR 4/4

DARK YELLOWISH BR DARK YEL. BR DARK YEL. BR
VERY FINE SAND VERY FINE SAND VERY FINE SAND

0 feet

10 feet

10 feet

NORTH



HS = Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 05 E
 SAMPLER(S): BG/KM DATE: 3-10-98 (0-6") (18-24")
 REMARKS: Obstruction in sample #2

Sample Time: 0930 (0-6") Sample ID: B05EBA (0-6")
 (18-24") (18-24")

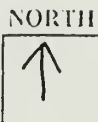
VOC grab sample was collected from boring Explosives / Inorganic

10 feet (1) HS _____ Soil Description: Dark yellowish brown (or 4/4) fine SAND and SILT, some gravel, trace very CS SAND
 (2) HS _____ Soil Description: NS
 (3) HS _____ Soil Description: olive yellow (2.5Y 6/6) fine SAND trace SILT

10 feet (4) HS _____ Soil Description: Same as 1
 (5) HS _____ Soil Description: olive yellow (2.5Y 6/6) fine SAND and SILT
 (6) HS _____ Soil Description: Same as 3

0 feet (7) HS _____ Soil Description: Same as 3
 (8) HS _____ Soil Description: Same as 3
 (9) HS _____ Soil Description: Same as 3

0 feet 10 feet 10 feet



HS = Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: F
 SAMPLER(S): F. Esquivel DATE: 1-14-98 (0-6") 1-14-98 (18-24")
 REMARKS: K. Delacruz

Sample Time: 1400 (0-6") Sample ID: 1305 F.A.A (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

Soil Description: 10 IR 3/3
Dark Brown
Med. Sands

② HS 0.0

Soil Description: 10 IR 3/3
Dark Brown
Med Sands

③ HS 0.0

Soil Description: 10 IR 3/3
Dark Brown
Med Sands

10 feet

④ HS 0.0

Soil Description: 10 IR 3/3
Dark Brown
Med Sands

⑤ HS 0.0

Soil Description: 10 IR 4/2
Dark Grayish Brown
Med Sands

⑥ HS 0.0

Soil Description: 10 IR 3/3
Dark Brown
Med Sands

0 feet

⑦ HS 0.0

Soil Description: 10 IR 4/3
Brown Silty
Moist clays

⑧ HS 0.0

Soil Description: 10 IR 3/3
Dark Brown
clayey Sands

⑨ HS 0.0

Soil Description: 15 IR 4/1
olive brown
Dry clay

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05F
SAMPLER(S): RP/JD/KM DATE: 3-18-98 (0-6") (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
_____ (18-24") B05FBA (18-24")
VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description Yellowish
brown fine to med
SAND, some cobbles

② HS 0

Soil Description Brown
(10YR 5/3) med
SAND, some cobbles

③ HS 0

Soil Description brownish
yellow (10YR 6/8) very
fine SAND some silt.

10 feet

④ HS 0

Soil Description Dark
grayish brown (10YR
4/2) med to CS SAND
Some cobbles

⑤ HS 0

Soil Description Yellowish
brown (10YR 5/8) CS
SAND, some gravel

⑥ HS 0

Soil Description Same
as 3.

0 feet

⑦ HS 0

Soil Description Yellow
(10YR 7/6) fine
SAND and SILT

⑧ HS 0

Soil Description Same
as 7

⑨ HS 0

Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



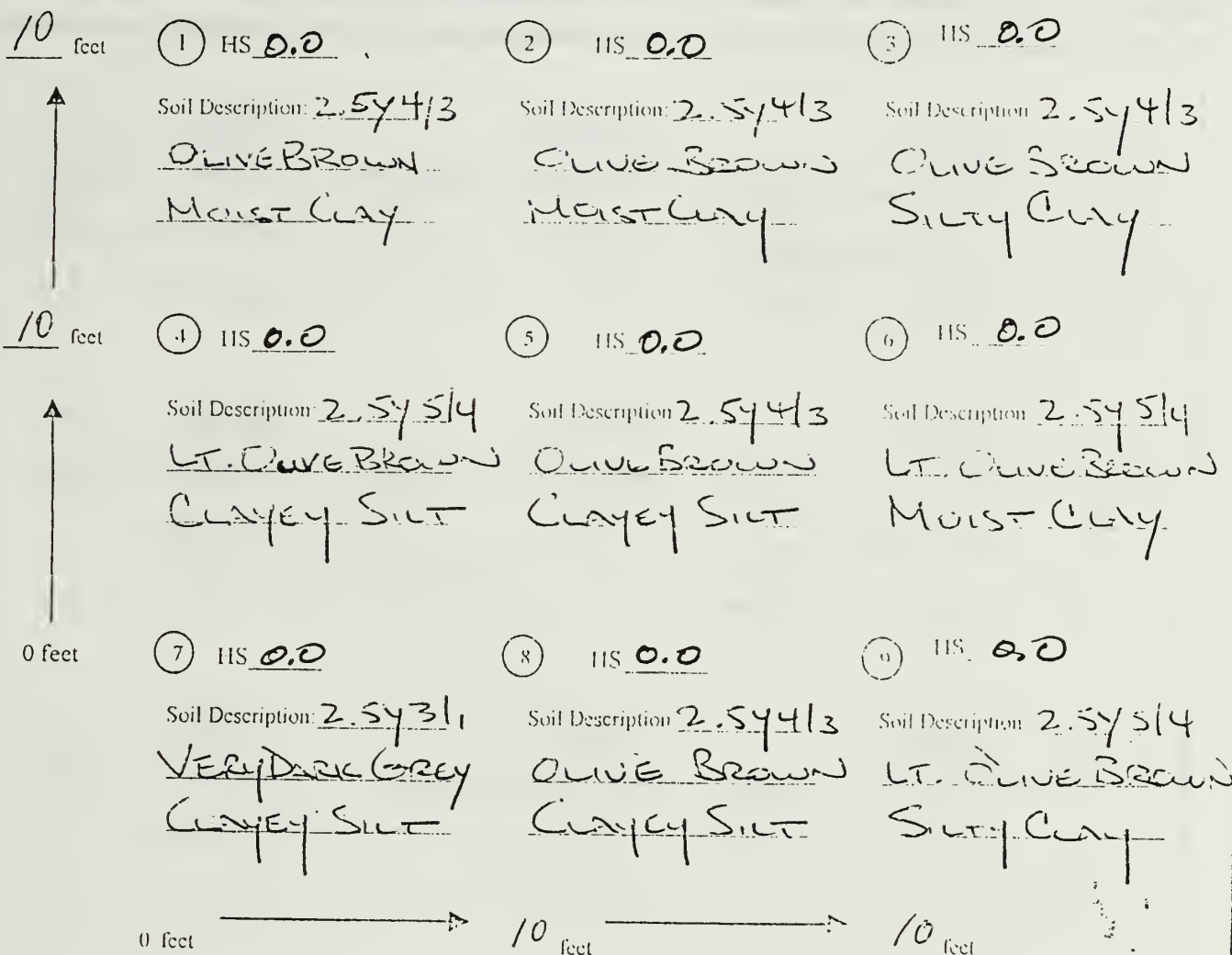
Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 6
SAMPLER(S): F Escalante DATE: 1-14-98 (0-6") 1-18 (18-24")
REMARKS: K. Delario

Sample Time: 1400 (0-6") Sample ID: 1305 GAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5



NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05G

SAMPLER(S): RP/BG DATE: (0-6") 04-13-98 (18-24")

REMARKS: _____

Sample Time: (0-6")
15:00 (18-24")

Sample ID: (0-6")
B05G8A (18-24")

VOC grab sample was collected from boring: 5

10 feet



① HS -

Soil Description Brown
fine SAND and
SILT, trace clay

② HS -

Soil Description same
as 1

③ HS -

Soil Description Reddish
brown fine SAND,
some silt

10 feet



④ HS -

Soil Description lt. brown
fine SAND and
SILT, trace clay
and cs. sand

⑤ HS -

Soil Description same
as 1

⑥ HS -

Soil Description same
as 1

0 feet

⑦ HS -

Soil Description same
as 1

⑧ HS -

Soil Description same
as 1

⑨ HS -

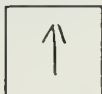
Soil Description same
as 1

0 feet

10 feet

10 feet

NORTH



HIS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 056

SAMPLER(S): KM/JD DATE: 3-18-98 (0-6") (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
_____ (18-24") B05GBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS _____

Soil Description Brownish
Yellow fine SAND
and SILT (10YR 6/6)

② HS _____

Soil Description Yellowish
brown fine SAND
and SILT (10YR 5/8)

③ HS _____

Soil Description Brownish
Yellow fine SAND
and SILT (10YR 6/8)

10 feet

④ HS _____

Soil Description Light
Yellowish brown
Fine SAND and SILT (10YR 6/4)

⑤ HS _____

Soil Description Brownish
Yellow fine SAND
and SILT (10YR 6/6)

⑥ HS _____

Soil Description Same
as 2.

0 feet

⑦ HS _____

Soil Description No
Sample

⑧ HS _____

Soil Description Brownish
Yellow fine SAND
and SILT (10YR 6/6)

⑨ HS _____

Soil Description Same
as 6

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: H
SAMPLER(S): KD + FE DATE: BOS/AA (0-6") (18-24")
REMARKS: MSMSD 1-19-98

Sample Time: 1115 (0-6") Sample ID: BOS/AA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet ① HS 0.0 Soil Description: 10YR4/3 Brown Very Fine-Fine Sand
② HS 0.0 Soil Description: 10YR4/3 Brown Very Fine-Fine Sand
③ HS 0.0 Soil Description: 10YR4/3 Brown Fine Sand

10 feet ④ HS 0.0 Soil Description: 10YR4/3 Brown Fine Sand
⑤ HS 0.0 Soil Description: 10YR4/3 Brown Fine Sand
⑥ HS 0.0 Soil Description: 10YR4/3 Brown Fine Sand

0 feet ⑦ HS 0.0 Soil Description: 10YR4/3 Brown Fine Sand
⑧ HS 0.0 Soil Description: 10YR4/3 Brown Fine Sand
⑨ HS 0.0 Soil Description: 10YR4/3 Brown Fine Sand

0 feet

10 feet

10 feet



HS: Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: H

SAMPLER(S): BG/KM DATE: (0-6") 3-10-98 (18-24")

REMARKS: _____

Sample Time: (0-6") 1330 (18-24") Sample ID: (0-6") B05HBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description Dark
Yellowish brown (10YR 4/4)
fine to med SAND, some
gravel, trace SILT and CS SAND

② HS 0

Soil Description Yellowish
brown (10YR 5/8) fine to
med SAND, trace CS SAND,
gravel, L/H SILT

③ HS 0

Soil Description Same
as 1

10 feet

④ HS 0

Soil Description Sec 1

⑤ HS 0

Soil Description Dark
Yellowish brown (10YR 4/4)
fine to cs SAND, some
gravel, trace SILT

⑥ HS 0

Soil Description Strong
brown (10YR 6/8) very
fine SAND and SILT
Some gravel.

0 feet

⑦ HS 0

Soil Description Dark
Yellowish brown (10YR 4/4)
fine to cs SAND some
gravel.

⑧ HS 0

Soil Description Dark
Yellowish brown (10YR 4/4)
fine to med SAND
trace gravel

⑨ HS 0

Soil Description Brownish
yellow (10YR 6/8) med
to cs SAND, trace fine
sand, trace gravel

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



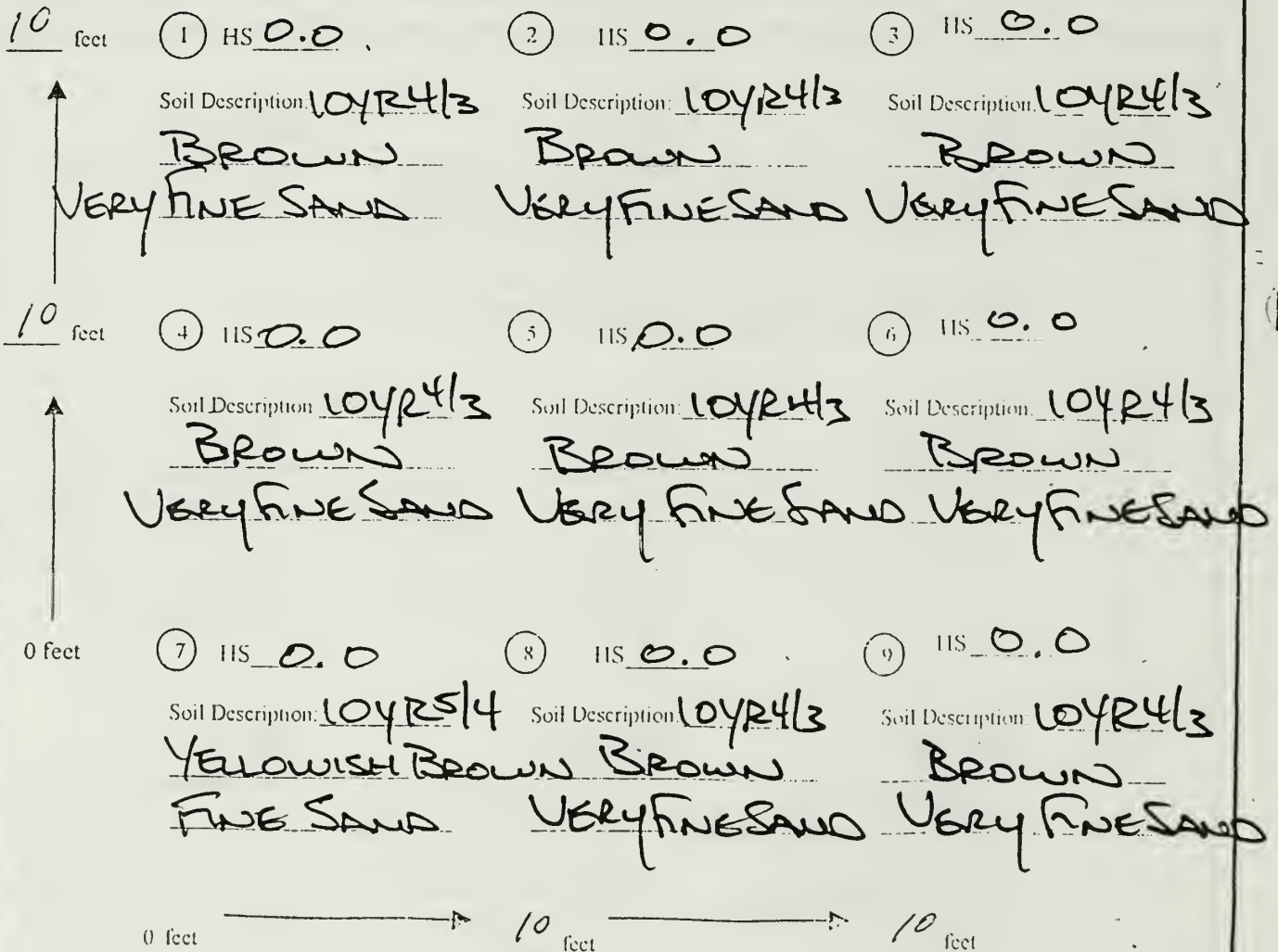
Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: I
SAMPLER(S): CD + FE DATE: 11/19/98 (0-6") (18-24")
REMARKS:

Sample Time: 1500 (0-6") Sample ID: BOSTAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5



NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 05I
SAMPLER(S): WG/KM DATE: _____ (0-6") 3-10-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1430 (18-24") B05IBA (18-24")

VOC grab sample was collected from boring: _____

10 feet	(1) HS _____ Soil Description: <u>Yellowish brown</u> <u>(10/R 5/4) fine to CS SAND</u> <u>some gravel and cobbles</u>	(2) HS _____ Soil Description: <u>Same as 1</u>	(3) HS _____ Soil Description: <u>No Sample</u>
10 feet	(4) HS _____ Soil Description: <u>No Sample</u>	(5) HS _____ Soil Description: <u>Same as 1</u>	(6) HS _____ Soil Description: <u>olive yellow</u> <u>(0.5/6/8) fine to CS SAND</u> <u>trace gravel, SILT</u>
0 feet	(7) HS _____ Soil Description: <u>Same as 6</u>	(8) HS _____ Soil Description: <u>Same as 1</u>	(9) HS _____ Soil Description: <u>Same as 1</u>

0 feet 10 feet 10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05J

SAMPLER(S): KD/FE DATE: 1-19-98 (0-6") _____ (18-24")

REMARKS: _____

Sample Time: 1200 (0-6")
_____ (18-24")

Sample ID: B05JAA (0-6")
_____ (18-24")

VOC grab sample was collected from boring: 5

10 feet



10 feet



0 feet

①

HS 0.0

Soil Description Brown
(10 YR 4/3) SILTY
fine SAND

②

HS 0.0

Soil Description Brown
(10 YR 4/3) fine
SAND

③

HS 0.0

Soil Description Same
as 2

④

HS 0.0

Soil Description Same
as 2

⑤

HS 0.0

Soil Description Same
as 2

⑥

HS 0.0

Soil Description Same
as 2

⑦

HS 0.0

Soil Description Same
as 2

⑧

HS 0.0

Soil Description Same
as 2

⑨

HS 0.0

Soil Description Same
as 2.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 055

SAMPLER(S): WG/KM DATE: 3-10-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1130 (0-6") (18-24") Sample ID: B05JBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description olive
Yellow (2.5 Y 6/6) fine
to med SAND, some
gravel, trace SILT

② HS —

Soil Description No
Sample

③ HS 0

Soil Description yellowish
brown (10 YR 5/6) fine
to med SAND, some
SILT and gravel

10 feet

④ HS 0

Soil Description yellowish
brown (10 YR 5/8)
fine to med SAND, some
gravel and SILT

⑤ HS 0

Soil Description Same
as 4.

⑥ HS 0

Soil Description Same
as 4

0 feet

⑦ HS 0

Soil Description Brownish
Yellow (10 YR 6/8)
fine to med SAND
Some gravel and SILT

⑧ HS 0

Soil Description Same
as 7.

⑨ HS 0

Soil Description Same
as 8.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: B

SAMPLER(S): KD/FE DATE: 1/19/98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1600 (0-6") Sample ID: B05KAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Very
dark gray (10YR 3/1)
very fine SAND



HS 0.0

Soil Description Very dark
grayish brown very
fine SAND



HS 0.0

Soil Description Same
as 2

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Dark
reddish brown very
fine to fine SAND



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Very
dark gray very
fine SAND, some SILT
(10YR 3/1)



HS 0.0

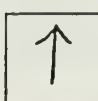
Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05K

SAMPLER(S): KM/BG DATE: 3-11-98 (0-6") (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0920 (18-24")

Sample ID: _____ (0-6")
B05KBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



① HS 0

Soil Description Strong
brown (7.5 YR 5/8)
fine SAND, some gravel

② HS —

Soil Description No
Sample

③ HS 0

Soil Description Light
Yellowish brown (10 YR
6/4) fine SAND trace
SILT.

10 feet



④ HS 0

Soil Description Same
as 1

⑤ HS 0

Soil Description Yellowish
brown (10 YR 5/4) fine
SAND, some SILT
and gravel

⑥ HS 0

Soil Description Same
as 1

0 feet

⑦ HS 0

Soil Description Yellowish
brown (10 YR 5/8)
fine SAND, some
cobbles

⑧ HS 0

Soil Description Same
as 7.

⑨ HS —

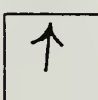
Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: L

SAMPLER(S): F. Esquire

DATE: 1-20-98 (0-6")

(18-24")

REMARKS: V. Dadao

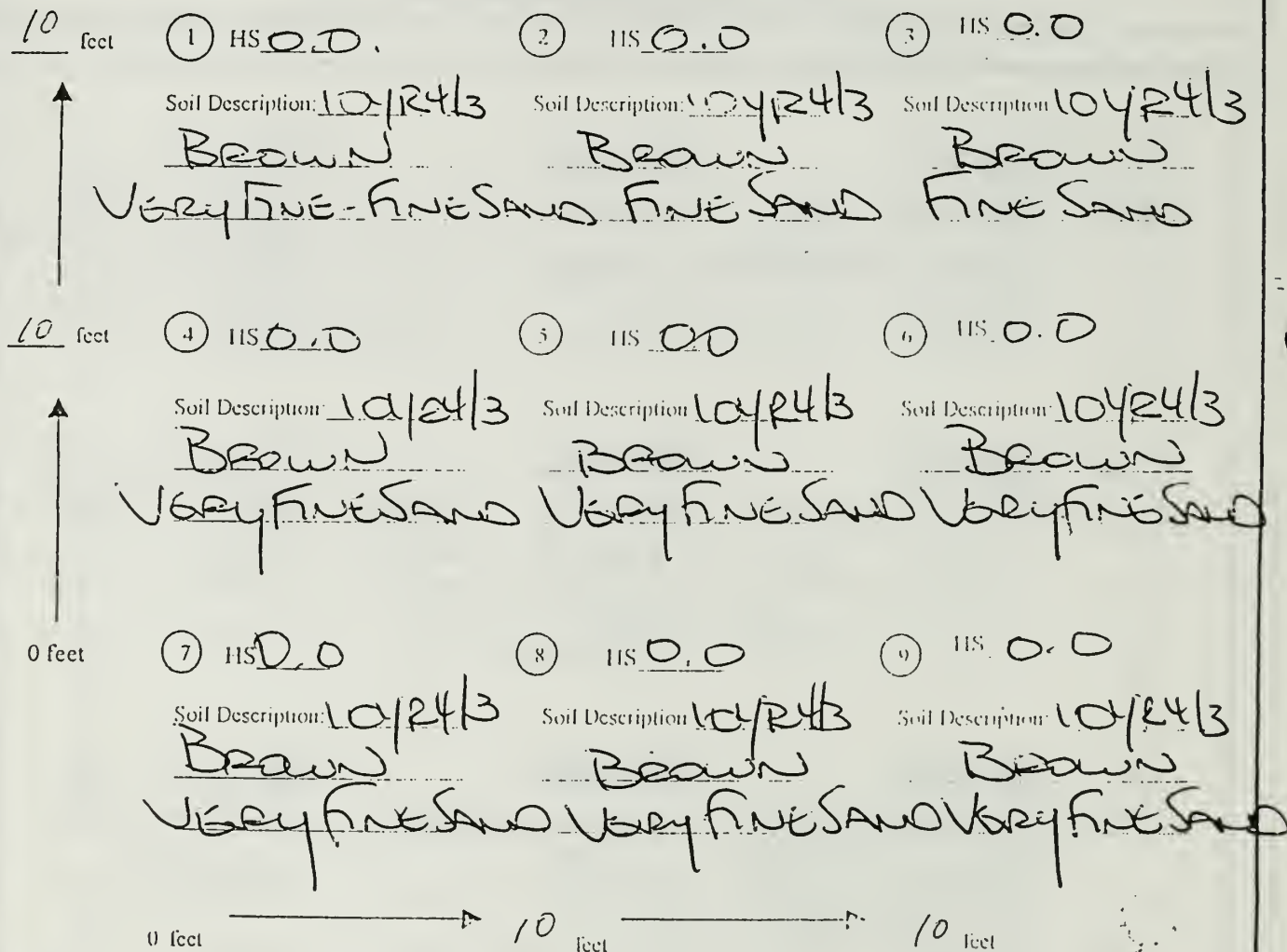
Sample Time: 0845 (0-6")

Sample ID: BOS LAA (0-6")

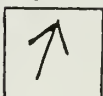
(18-24")

(18-24")

VOC grab sample was collected from boring: 5



NORTH



HS: Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: L

SAMPLER(S): BG/KM DATE: (0-6") 3-11-98 (18-24")

REMARKS: _____

Sample Time: (0-6") 1010 (18-24")

Sample ID: (0-6") B05LBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0
Soil Description Yellowish
brown (10YR 5/4)
fine SAND, some
SILT and gravel

② HS 0
Soil Description Same
as 1

③ HS 0
Soil Description Same
as 1

10 feet

④ HS 0
Soil Description Yellowish
brown (10YR 5/6) fine
SAND, some SILT,
Trace gravel

⑤ HS 0
Soil Description Yellowish
brown (10YR 5/6)
fine SAND, some SILT

⑥ HS 0
Soil Description Same
as 5

0 feet

⑦ HS 0
Soil Description Yellowish
brown (10YR 5/6)
fine to med SAND,
trace gravel

⑧ HS 0
Soil Description Same
as 5

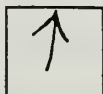
⑨ HS 0
Soil Description Same
as 5

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05M

SAMPLER(S): FE/KD DATE: 1-20-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0930 (0-6")
_____ (18-24")

Sample ID: B05MAA (0-6")
_____ (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS _____

Soil Description Yellowish
brown (10YR 5/4)
Very fine to fine SAND



HS _____

Soil Description Same
as 1



HS _____

Soil Description Same
as 1

10 feet



HS _____

Soil Description Same
as 1



HS _____

Soil Description Same
as 1



HS _____

Soil Description Brown
(7.5YR 4/4) very
fine SILT SAND

0 feet



HS _____

Soil Description Same
as 1



HS _____

Soil Description Same
as 1



HS _____

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



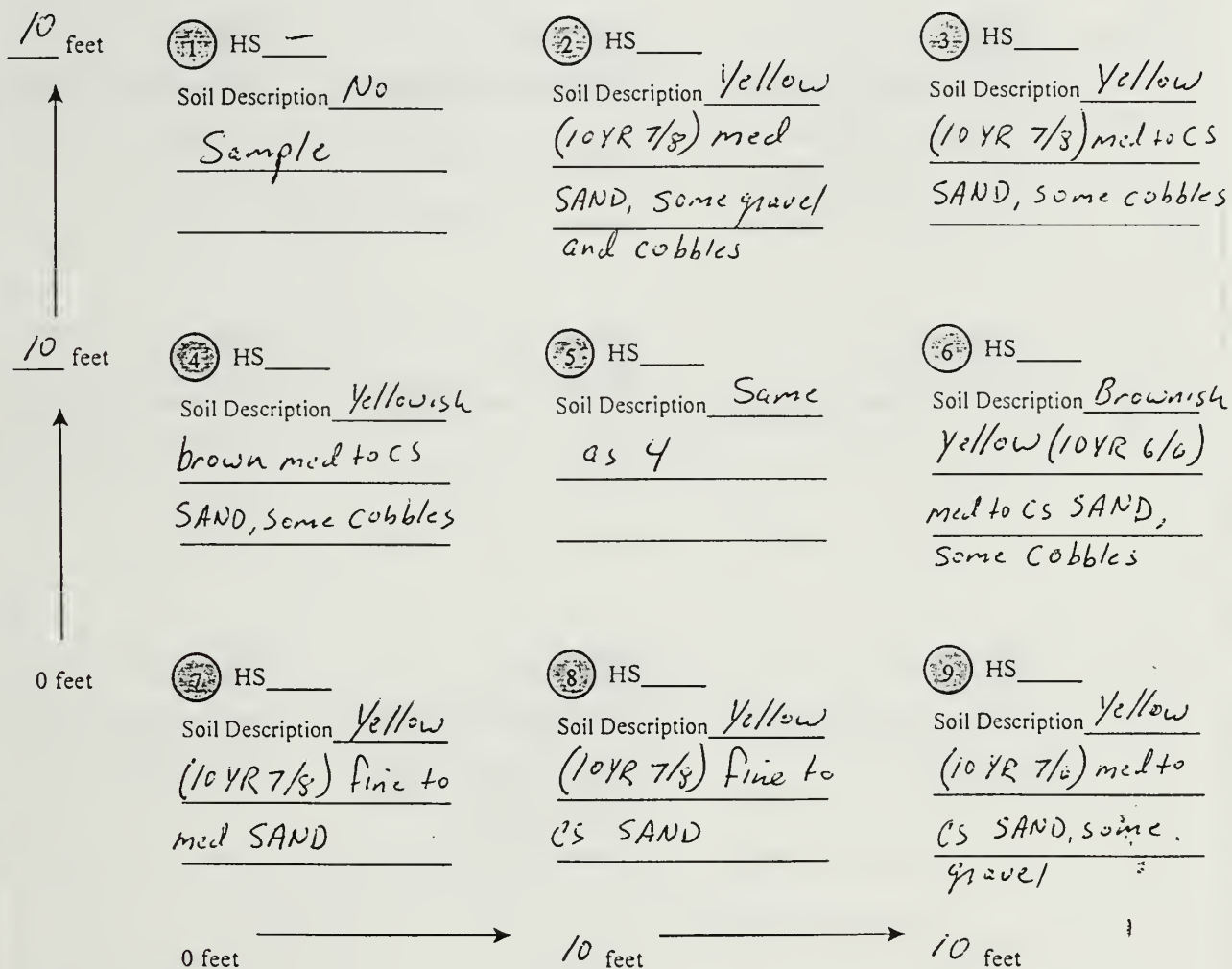
Hand Auger Log

AREA: 5

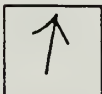
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05M
SAMPLER(S): BG/KM DATE: 3-11-98 (0-6") (18-24")
REMARKS: Obstruction @ Sample 1

Sample Time: 1150 (0-6") (18-24") Sample ID: B05MBA (0-6") (18-24")

VOC grab sample was collected from boring: NS



NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 05

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05N

SAMPLER(S): FE/KD DATE: 1-20-98 (0-6") (18-24")

REMARKS:

Sample Time: 1030 (0-6") Sample ID: B05NAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0

Soil Description Brown
(10YR 4/3) very
fine silty SAND



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 1

10 feet



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 1



HS 0

Soil Description Brown
(10YR 4/3) clayey
silt

0 feet



HS 0

Soil Description Same
as 1



HS 0

Soil Description Lt. olive
brown (2.5 Y 5/4)
silty clay



HS 0

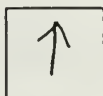
Soil Description Same
as 8

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA:

5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05N

SAMPLER(S): BG/KM DATE: _____ (0-6") 3-11-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1345 (18-24")

Sample ID: _____ (0-6")
B05NBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0

Soil Description Yellowish
brown (10Y 5/8) fine
to C3 SAND, some gravel



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 1

10 feet



HS 0

Soil Description Same
as 1



HS —

Soil Description No
Sample



HS 0

Soil Description Same
as 1

0 feet



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 1



HS —

Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: P

SAMPLER(S): F. Esquivel

DATE: 1-14-98 (0-6")

1-14-98 (18-24")

REMARKS: K. Dadao

Sample Time: 1525 (0-6")
(18-24")

Sample ID: BOS PAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

DARK BROWN
FINE SAND

DARK BROWN
FINE SAND

DARK BROWN
SILTY FINE SAND

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

DARK BROWN
FINE SAND

DARK BROWN
FINE SAND

DARK BROWN
FINE SAND

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

DARK BROWN
FINE SAND

DARK BROWN
FINE SAND

DARK BROWN
FINE SAND

0 feet

10 feet

10 feet

NORTH

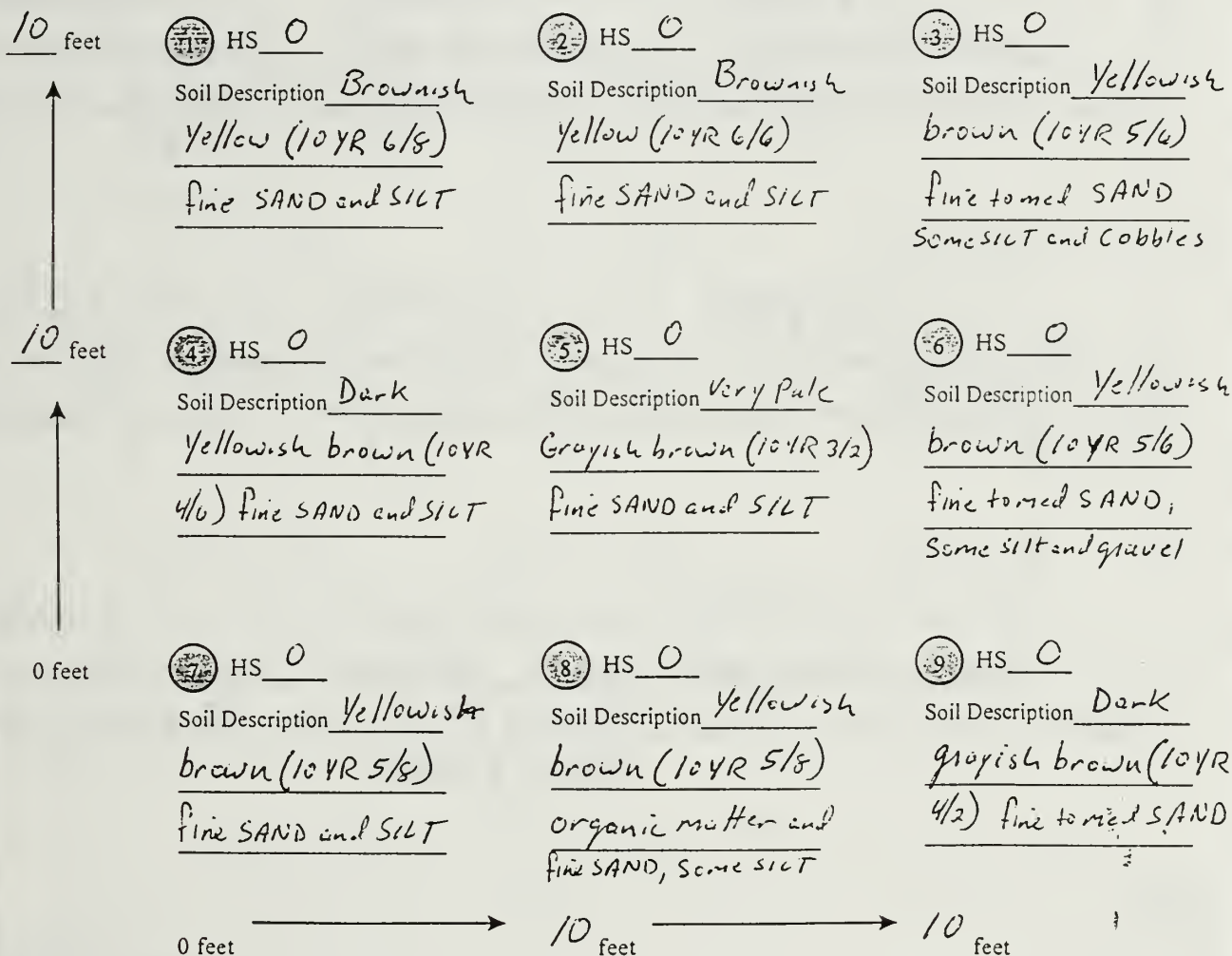


HS = Headspace PPM (0-6")

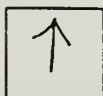
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 05P
 SAMPLER(S): JD DATE: _____ (0-6") _____ (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
 _____ (18-24") B05PBA (18-24")

VOC grab sample was collected from boring: _____



NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: Q

SAMPLER(S): KD + FE DATE: 1-20-98 (0-6") (18-24")

REMARKS:

Sample Time: 11:15 (0-6") (18-24")

Sample ID: B05QAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0

Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3

DARK BROWN DARK BROWN DARK BROWN

VERY FINE SILTY SAND VERY FINE SILTY SAND VERY FINE SILTY SAND

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0

Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3

DARK BROWN DARK BROWN DARK BROWN

VERY FINE SILTY SAND VERY FINE SILTY SAND VERY FINE SILTY SAND

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3

DARK BROWN DARK BROWN DARK BROWN

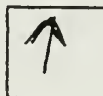
VERY FINE SILTY SAND VERY FINE SILTY SAND VERY FINE SILTY SAND
SILTY SAND

0 feet

10 feet

10 feet

NORTH



HS: Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA:

5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 05Q

SAMPLER(S): BG/KM

DATE:

(0-6") 3-13-88 (18-24")

REMARKS:

Sample Time:

0911

(0-6")

(18-24")

Sample ID:

(0-6")

B05QBA

(18-24")

VOC grab sample was collected from boring: _____

10 feet

(1) HS 0

Soil Description: brownish
yellow (10YR 6/8) fine
SAND, some silt,
trace gravel

(2) HS 0

Soil Description: yellowish
brown (10YR 5/8) fine
SAND, some silt
trace gravel

(3) HS 0

Soil Description: Same as 2

10 feet

(4) HS 0

Soil Description: Same as 2

(5) HS 0

Soil Description: Same as 2

(6) HS 0

Soil Description: brown
(10YR 5/3) fine SAND
some silt and gravel

0 feet

(7) HS 0

Soil Description: Same as 2

(8) HS 0

Soil Description: Same as 6

(9) HS 0

Soil Description: Same as 6

0 feet

10 feet

feet

10 feet

feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: 5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: BCSAAA

SAMPLER(S): KD + FE

DATE: 1-20-98 (0-6")

(18-24")

REMARKS: SPLIT w/ TEC - BURN KETTLE AREA

Sample Time: 0750 (0-6")
(18-24")

Sample ID: (0-6")
(18-24")

VOC grab sample was collected from boring: 1

NA feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description 10YR4/4

Soil Description 10YR4/3

Soil Description 10YR4/3

DK. YELLOWISH BR.

BROWN

BROWN

VERY FINE SILTY SAND

VERY FINE SAND

VERY FINE SAND

NA feet

④ HS 0.0

⑤ HS

⑥ HS

Soil Description 10YR4/4

Soil Description

Soil Description

DK. YELLOWISH BR.

VERY FINE SILTY SAND

0 feet

⑦ HS

⑧ HS

⑨ HS

Soil Description:

Soil Description:

Soil Description:

0 feet

feet

feet

NORTH



HS = Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 06A
 SAMPLER(S): Tim D, Jerry C DATE: 10/24/97 (0-6") _____ (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 0730 (0-6") Sample ID: B06AAA (0-6")
 _____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: #8

~10 feet

① HS 1.3 ppm

② HS 1.5 ppm

③ HS 0.0 ppm

Soil Description: Medium

Soil Description: SAME AS

Soil Description: SAME AS

silty sand with fines

1.

1.

Dark grayish brown 10Y4/2

~10 feet

④ HS 0.2 ppm

⑤ HS 0.5 ppm

⑥ HS 0.5 ppm

Soil Description: SAME

Soil Description: SAME AS

Soil Description: SAME

AS 1.

1.

AS 1.

0 feet

⑦ HS 0.3 ppm

⑧ HS 1.6 ppm

⑨ HS 0.2 ppm

Soil Description: SAME

Soil Description: SAME

Soil Description: SAME

AS 1.

AS 1.

AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 6

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 06A

SAMPLER(S): FE/JD DATE: _____ (0-6") 12 Jan 98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1020 (18-24")

Sample ID: _____ (0-6")
B06ABA (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0.0

Soil Description Yellowish
brown medium
SAND



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

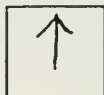
Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 06

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 06B
SAMPLER(S): J. DWYER, J. Cipollini; DATE: 10-24-97 (0-6") _____ (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0840 (0-6") Sample ID: B06BAA (0-6")
_____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: #5

~10 feet
↑
① HS 0.0 ppm Soil Description: DARK
YELLOWISH BROWN
SILT, SOME ROOTS, TRACE
FINES AND 10% 4/4
② HS 0.0 ppm Soil Description: SAME AS
1.
③ HS 0.5 ppm Soil Description: SAME
AS 1.

~10 feet
↑
④ HS 0.0 ppm Soil Description: SAME AS
1.
⑤ HS 2.3 ppm Soil Description: SAME
AS 1.
⑥ HS 3.0 ppm Soil Description: SAME
AS 1.

0 feet
⑦ HS 1.0 ppm Soil Description: SAME
AS 1.
⑧ HS 0.0 ppm Soil Description: SAME
AS 1.
⑨ HS 0.9 ppm Soil Description: SAME
AS 1.

0 feet → ~10 feet → ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

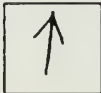
AREA: 6

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 06B
SAMPLER(S): FE/JD DATE: 1-12-98 (0-6") 1-17-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1130 (18-24") B06BBA (18-24")
VOC grab sample was collected from boring: NS

	<div>10 feet</div> <div>1 HS <u>0</u></div> <div>Soil Description <u>Dark</u></div> <div><u>Yellowish brown (10YR</u></div> <div><u>4/4) med. SAND</u></div>	<div>2 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>	<div>3 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>
	<div>10 feet</div> <div>4 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>	<div>5 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>	<div>6 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>
	<div>0 feet</div> <div>7 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>	<div>8 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>	<div>9 HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as /</u></div>
	0 feet	10 feet	10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 06C
 SAMPLER(S): Tim D, Jerry C DATE: 10/24/97 (0-6") (18-24")
 REMARKS: FID background 1.4ppm, Headspace readings are ppm above background.

Sample Time: 0930 (0-6") Sample ID: B06CAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet (1) HS 0.0 ppm (2) HS 0.0 ppm (3) HS 0.0 ppm
 Soil Description: Organic with medium and fine sand. Strong brown 7.5Y 4/c Soil Description: SAME AS 1. Soil Description: SAME AS 1.

~10 feet (4) HS 0.0 ppm (5) HS 0.0 ppm (6) HS 0.0 ppm
 Soil Description: SAME AS 1. Soil Description: SAME AS 1. Soil Description: SAME AS 1.

0 feet (7) HS 0.0 ppm (8) HS 0.0 ppm (9) HS 0.0 ppm
 Soil Description: SAME AS 1. Soil Description: SAME AS 1. Soil Description: SAME AS 1.

0 feet ~10 feet ~10 feet

NORTH

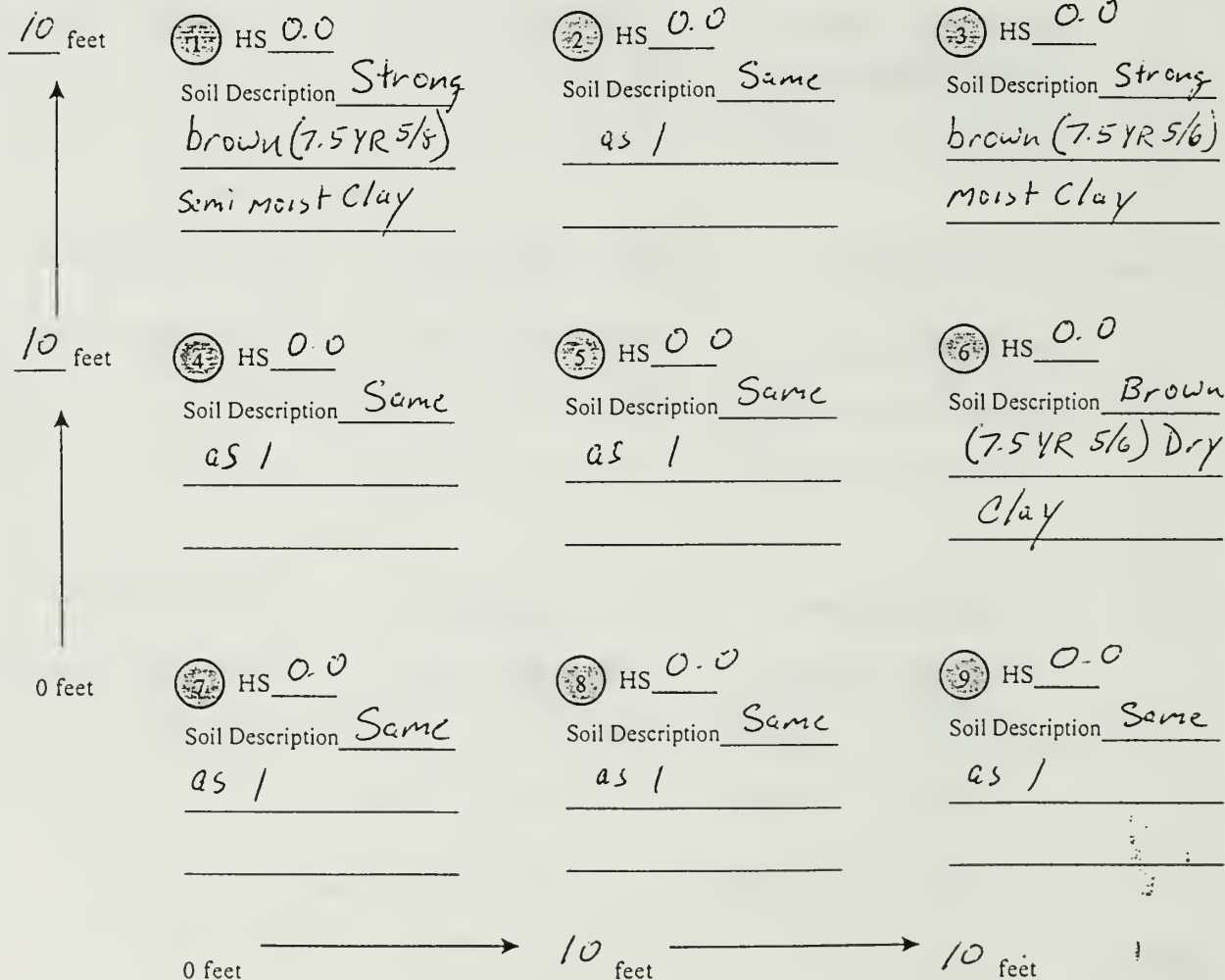


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 06C
 SAMPLER(S): FE/KD DATE: 13 Jan 98 (0-6") (18-24")
 REMARKS: _____

Sample Time: 1430 (0-6") (18-24") Sample ID: BOG CBA (0-6") (18-24")

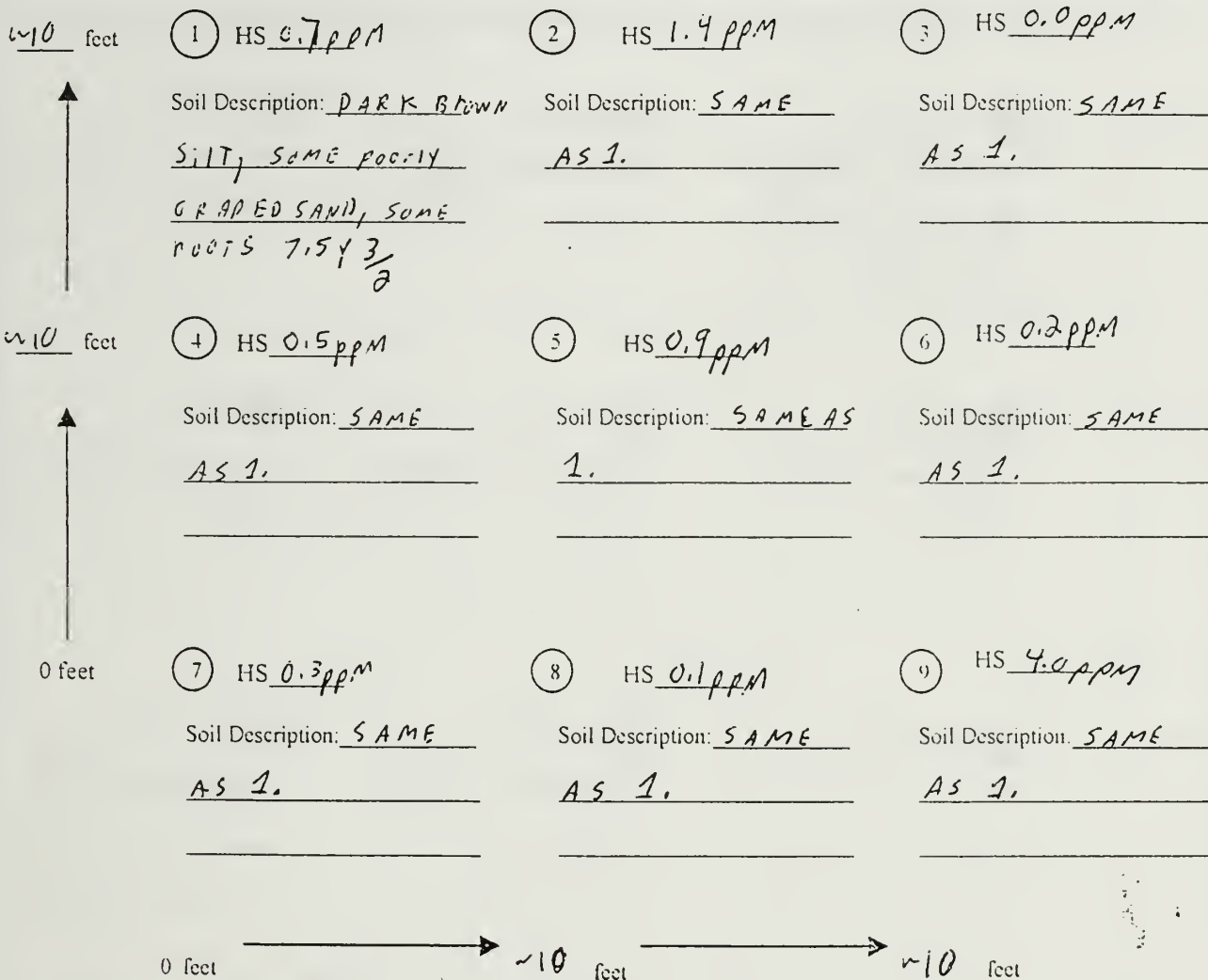
VOC grab sample was collected from boring: NS



PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 06P
 SAMPLER(S): T. DWYER, J. CIRILLIN. DATE: 10-24-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1020 (0-6") Sample ID: B06PAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #9



NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 6

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 06D
SAMPLER(S): FE/JD DATE: _____ (0-6") _____ (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
_____ (18-24") BOGDBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



① HS 0.0
Soil Description Yellowish
brown (10YR 5/4)
med SAND

② HS 0.0
Soil Description Same
as 1

③ HS 0.0
Soil Description Same
as 1

10 feet



④ HS 0.0
Soil Description Same
as 1

⑤ HS 0.0
Soil Description Same
as 1

⑥ HS 0.0
Soil Description Same
as 1

0 feet

⑦ HS 0.0
Soil Description Same
as 1

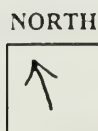
⑧ HS 0.0
Soil Description Same
as 1

⑨ HS 0.0
Soil Description Same
as 1

0 feet

10 feet

10 feet



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 06E
 SAMPLER(S): Tim D, Jerry C DATE: 10/24/97 (0-6") _____ (18-24")
 REMARKS: _____

Sample Time: 1110 (0-6") Sample ID: B06EAA (0-6")
 _____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: #7

~10 feet

① HS 0.0 ppm

② HS 0.5 ppm

③ HS 0.0 ppm

Soil Description: Organic
with Medium and fine sand
Dark olive brown, 2.5Y3/3

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

~10 feet

④ HS 0.2 ppm

⑤ HS 0.4 ppm

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 1.1 ppm

⑧ HS 0.4 ppm

⑨ HS 0.7 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



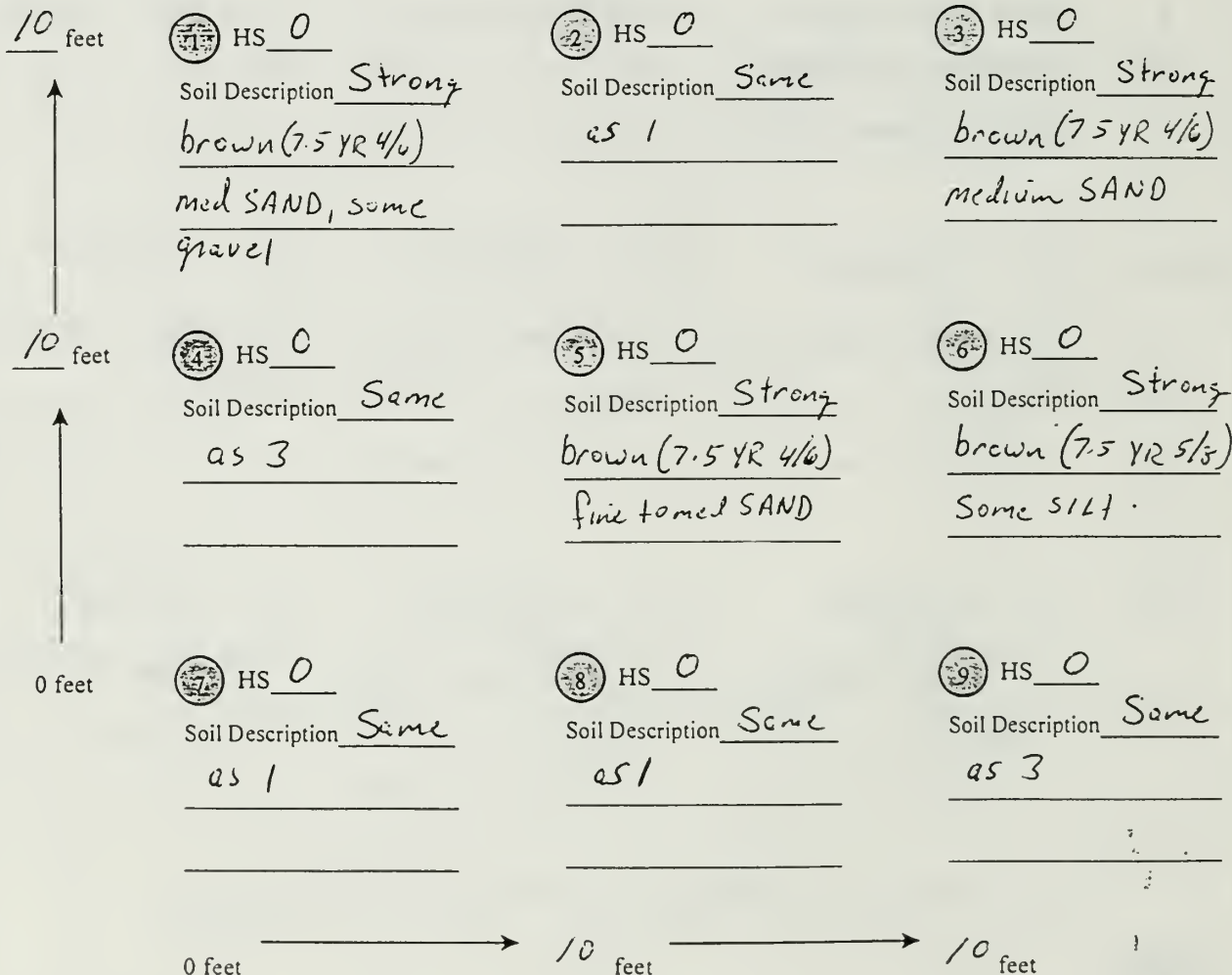
Hand Auger Log

AREA: 6

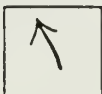
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 06E
SAMPLER(S): FE/JD DATE: 12 Jan 98 (0-6") (18-24")
REMARKS: _____

Sample Time: 1400 (0-6") (18-24") Sample ID: B06EBA (0-6") (18-24")

VOC grab sample was collected from boring: 5



NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 07A
 SAMPLER(S): T DWYER, J. Cirillini DATE: 10-22-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0815 VOL'S, 0820 ANALYSE (0-6") Sample ID: B07AAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: K5

~10 feet

(1) HS 0.0 ppm

(2) HS 0.0 ppm

(3) HS 0.0 ppm

Soil Description: DARK

Soil Description: SAME AS

Soil Description: SAME AS

BROWN SILT, TRACE OF FINE

1

1.

SAND. 7.5 Y³

~10 feet

(4) HS 0.0 ppm

(5) HS 0.0 ppm

(6) HS 0.0 ppm

Soil Description: SAME

Soil Description: SAME

Soil Description: SAME

AS 1.

AS 1.

AS 1.

0 feet

(7) HS 0.0 ppm

(8) HS 0.0 ppm

(9) HS 0.0 ppm

Soil Description: SAME

Soil Description: SAME

Soil Description: SAME

AS 1.

AS 1.

AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 07A

SAMPLER(S): FE/KD DATE: 1-28-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0830 (0-6") (18-24") Sample ID: B07ABA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0.0

Soil Description Dark
Yellowish brown (10YR
7.5) fine SAND, some
Pebbles



HS 0.0

Soil Description Same
as 1



HS —

Soil Description No
Sample

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

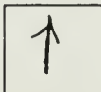
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 07B
 SAMPLER(S): T. DWYER, J. Cipolletti DATE: 10-22-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0930 (0-6") Sample ID: B07BAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: # 5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: DARK BROWN

Soil Description: SAME

Soil Description: SAME

Silt, some roots trace AS 1.

AS 1.

CLAY, 7.5Y₃

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME

Soil Description: SAME

Soil Description: SAME

AS 1.

AS 1.

AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME AS

Soil Description: SAME

Soil Description: SAME

1.

AS 1.

AS 1.

0 feet

~10 feet

~10 feet

NORTH



HIS=Headspace PPM (0-6")



Hand Auger Log

AREA: 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 07B
SAMPLER(S): FE/JF/KD DATE: _____ (0-6") 1-29-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0815 (18-24") B07B3A (18-24")

VOC grab sample was collected from boring: —

10 feet



HS 0.0

Soil Description Yellowish
brown (10YR 5/4)
Silty Clay



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Lt olive
brown (2.5Y 5/3)
Clayey SILT

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

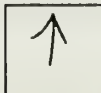
Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH






HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 07C
 SAMPLER(S): Tim D, Jerry C DATE: 10/22/97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1025 All (0-6") Sample ID: B07CAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #2

<u>~10</u> feet 	(1) HS <u>0.3 ppm</u> Soil Description: <u>Dark brown organic, silty, trace sand. 1.5% $\frac{3}{5}$</u>	(2) HS <u>2.1 ppm</u> Soil Description: <u>SAME AS 1.</u>	(3) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	
	<u>~10</u> feet 	(4) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	(5) HS <u>0.6 ppm</u> Soil Description: <u>SAME AS 1.</u>	(6) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>
	0 feet 	(7) HS <u>1.1 ppm</u> Soil Description: <u>SAME AS 1.</u>	(8) HS <u>0.9 ppm</u> Soil Description: <u>SAME AS 1.</u>	(9) HS <u>0.4 ppm</u> Soil Description: <u>SAME AS 1.</u>

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 07

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 07C
SAMPLER(S): FE/JF/KD DATE: (0-6") 1-29-98 (18-24")
REMARKS:

Sample Time: (0-6") 0915 (18-24") Sample ID: (0-6") B07CBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0.0
Soil Description Lt Olive
brown Silty
Clay

② HS 0.0
Soil Description Yellowish
brown (10YR 5/4)
Silty Clay

③ HS 0.0
Soil Description Same
as 1

10 feet

④ HS 0.0
Soil Description Same
as 1

⑤ HS 0.0
Soil Description Same
as 1

⑥ HS 0.0
Soil Description Same
as 1

0 feet

⑦ HS 0.0
Soil Description Same
as 1

⑧ HS 0.0
Soil Description Same
as 1

⑨ HS 0.0
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 07D
SAMPLER(S): JC/TD DATE: 10-22-97 (0-6") (18-24")
REMARKS: FID Background

Sample Time: 1125 (0-6") Sample ID: B07DAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 1

10 feet



HS 4.4 ppm

Soil Description Brown
(7.5 Y 4/2) SILT
Some roots, trace
SAND



HS 3.9 ppm

Soil Description Same
as 1



HS 4.3 ppm

Soil Description Same
as 1

10 feet



HS 3.3 ppm

Soil Description Same
as 1



HS 3.8 ppm

Soil Description Same
as 1



HS 3.0 ppm

Soil Description Same
as 1

0 feet



HS 3.5 ppm

Soil Description Same
as 1



HS 3.8 ppm

Soil Description Same
as 1



HS 3.8 ppm

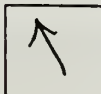
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 7

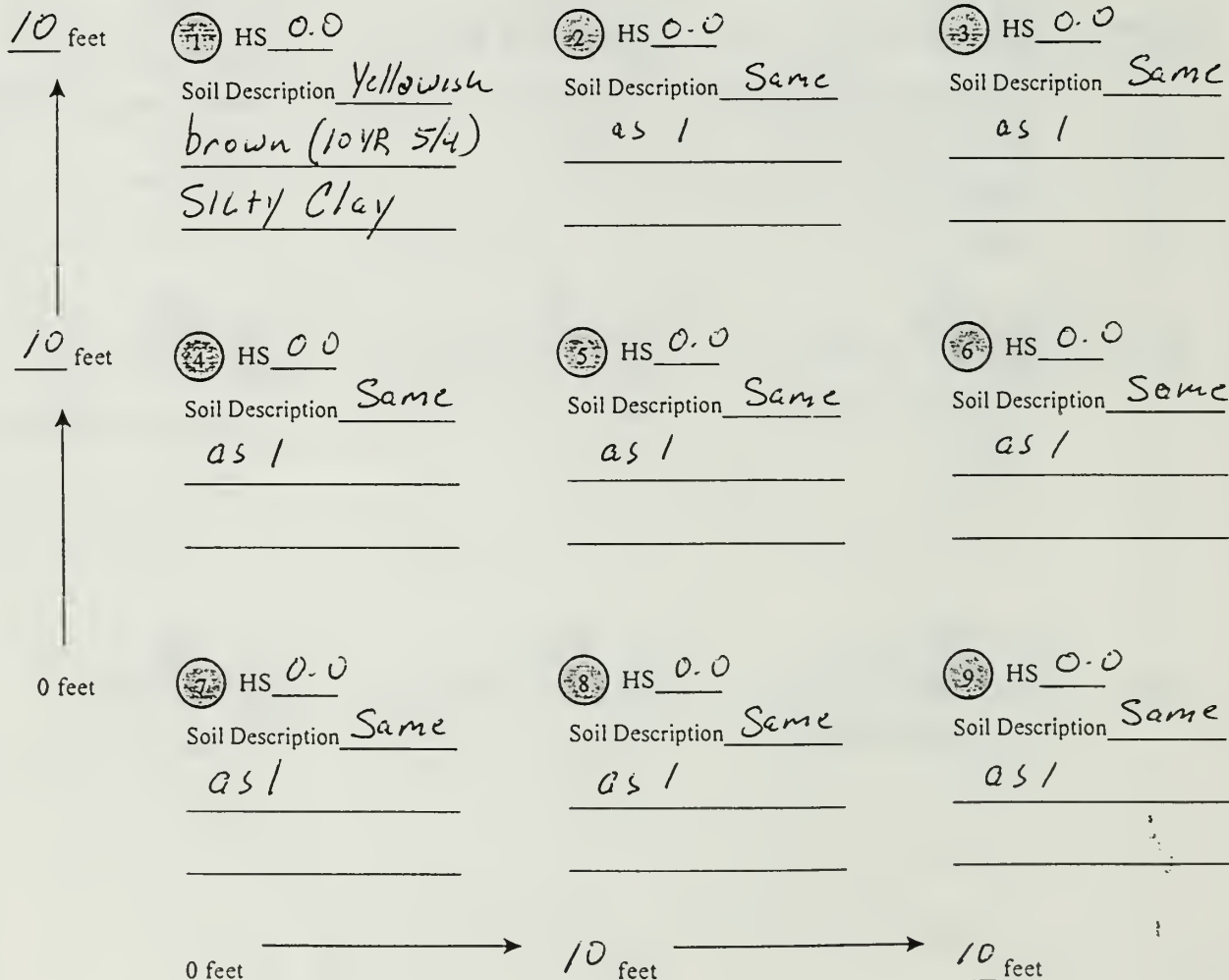
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 07D

SAMPLER(S): FE/JF/KD DATE: 1-29-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0945 (0-6") (18-24") Sample ID: B07DBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

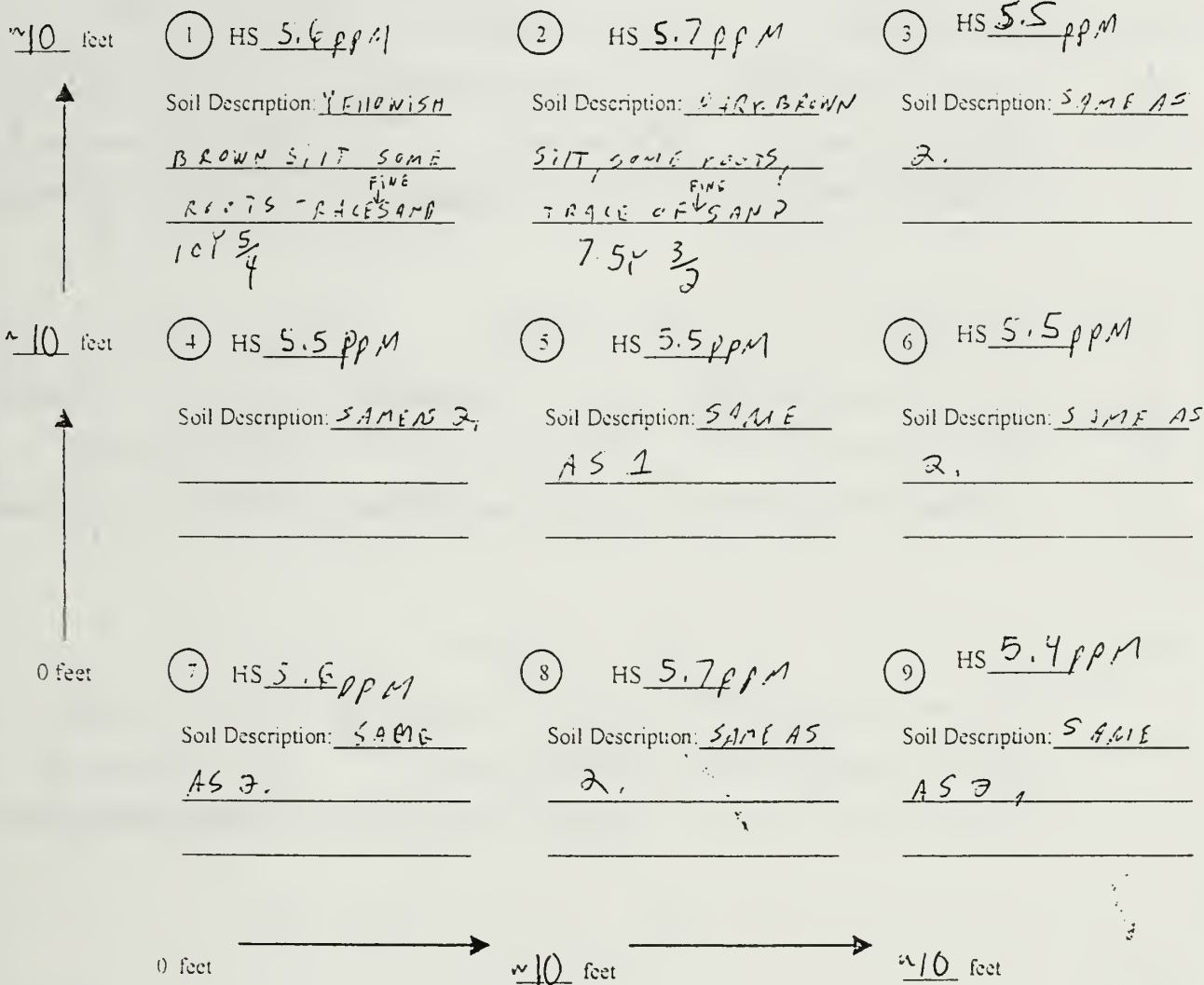


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 07E
 SAMPLER(S): Tim D, Jerry C DATE: 10/22/97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 5.4 ppm, DUPLICATE SAMPLE COLLECTED.

Sample Time: 1455 All (0-6") Sample ID: B07EAA and B07EAD(0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #2



NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: E

SAMPLER(S): KD + FE

DATE: _____

(0-6") 1-28-98 (18-24")

REMARKS: COLLECTED DUP.

Sample Time: _____ (0-6")
0945 (18-24")

Sample ID: _____ (0-6")
B0768A (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 10YR4/3

Soil Description: 10YR4/3

Soil Description: 10Y2.4/4

BROWN

BROWN

DRY YELLOWISH BR.

FINE SILTY SAND

FINE SILTY SAND

FINE SILTY SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 10YR4/3

Soil Description: 10YR4/3

Soil Description: 10YR4/3

BROWN

BROWN

BROWN

FINE SILTY SAND

FINE SILTY SAND

FINE SILTY SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS -

Soil Description: 2.5Y5/3

Soil Description: 10YR4/3

Soil Description: N/A

LT. OLIVE BROWN

BROWN

NO SAMPLE

FINE SILTY SAND

FINE SILTY SAND

~~FINE SILTY SAND~~

0 feet

10 feet

10 feet

NORTH



HS = Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: Ø8A
 SAMPLER(S): Tim D, Jerry C DATE: 10/23/97 (0-6") (18-24")
 REMARKS: FID back ground 0.0 ppm.

Sample Time: 1355 (0-6") Sample ID: BØ8AAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #2

~10 feet (1) HS 0.0 ppm (2) HS 11.4 ppm (3) HS 0.0 ppm
 Soil Description: Medium Soil Description: Same as 1. Soil Description: Same as 1.
silty sand, with fines
Very dark brown 7.5YR 2.5/2

~10 feet (4) HS 0.9 ppm (5) HS 0.8 ppm (6) HS 0.0 ppm
 Soil Description: Same as 1. Soil Description: Same as 1. Soil Description: Same as 1.

0 feet (7) HS 0.7 ppm (8) HS 1.1 ppm (9) HS 2.1 ppm
 Soil Description: Same as 1. Soil Description: Same as 1. Soil Description: Same as 1.

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 08

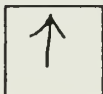
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: _____
SAMPLER(S): FE/JF DATE: _____ (0-6") 1-29-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1600 (18-24") BOSABA (18-24")

VOC grab sample was collected from boring: NS

	10 feet	① HS <u>0.0</u> Soil Description <u>Greenish black (10BG 2.5/1)</u> <u>fine SAND</u>	② HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>	③ HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>
	10 feet	④ HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>	⑤ HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>	⑥ HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>
	0 feet	⑦ HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>	⑧ HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>	⑨ HS <u>0.0</u> Soil Description <u>Same</u> <u>as 1</u>
0 feet		→ 10 feet	→ 10 feet	

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 088
 SAMPLER(S): Tim D, Jerry C DATE: 10/23/97 (0-6") (18-24")
 REMARKS: FID background 0.0 ppm

Sample Time: 1015 (0-6") Sample ID: 808 BAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #7

10 feet	① HS 0.5 ppm Soil Description: Silty medium sand with fines Redish-Black, 10R ^{2.5/1}	② HS 0.0 ppm Soil Description: Same as 1.	③ HS 0.2 ppm Soil Description: Same as 1.
10 feet	④ HS 1.1 ppm Soil Description: Same as 1.	⑤ HS 0.0 ppm Soil Description: Same as 1.	⑥ HS 0.6 ppm Soil Description: Same as 1.
0 feet	⑦ HS 2.9 ppm Soil Description: Same as 1.	⑧ HS 1.2 ppm Soil Description: Same as 1.	⑨ HS 0.4 ppm Soil Description: Same as 1.

0 feet → 10 feet → 10 feet



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: B

SAMPLER(S): F. Espinal

DATE:

(0-6")

1-30-98

(18-24")

REMARKS: J. Erant, K. Dadorio

Sample Time:

(0-6")

Sample ID:

(0-6")

1120

(18-24")

B08BBA

(18-24")

VOC grab sample was collected from boring: 1

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description:

Same

Soil Description:

70% R3/2
V. Dark Greyish
Brown Fine Sands

Soil Description:

Same

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description:

Same

Soil Description:

Same

Soil Description:

Same

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description:

Same

Soil Description:

Same

Soil Description:

Same

0 feet

10

feet

10

feet

NORTH





HS: Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 08C
 SAMPLER(S): T. DWYER, J. CIRILLINI DATE: 10-23-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1055 (0-6") Sample ID: B08CAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 1

<u>~10</u> feet 	① HS <u>0.2 ppm</u> Soil Description: <u>SILTY</u> <u>SAND, TRACE FINES</u> <u>REDDISH BLACK</u> <u>10R 2.5</u> <u>1</u>	② HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>
	<u>10R 2.5</u> <u>1</u>		
<u>~10</u> feet 	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>
0 feet	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>

NORTH



0 feet → ~10 feet → ~10 feet

HS=Headspace PPM (0-6")

OGDEN



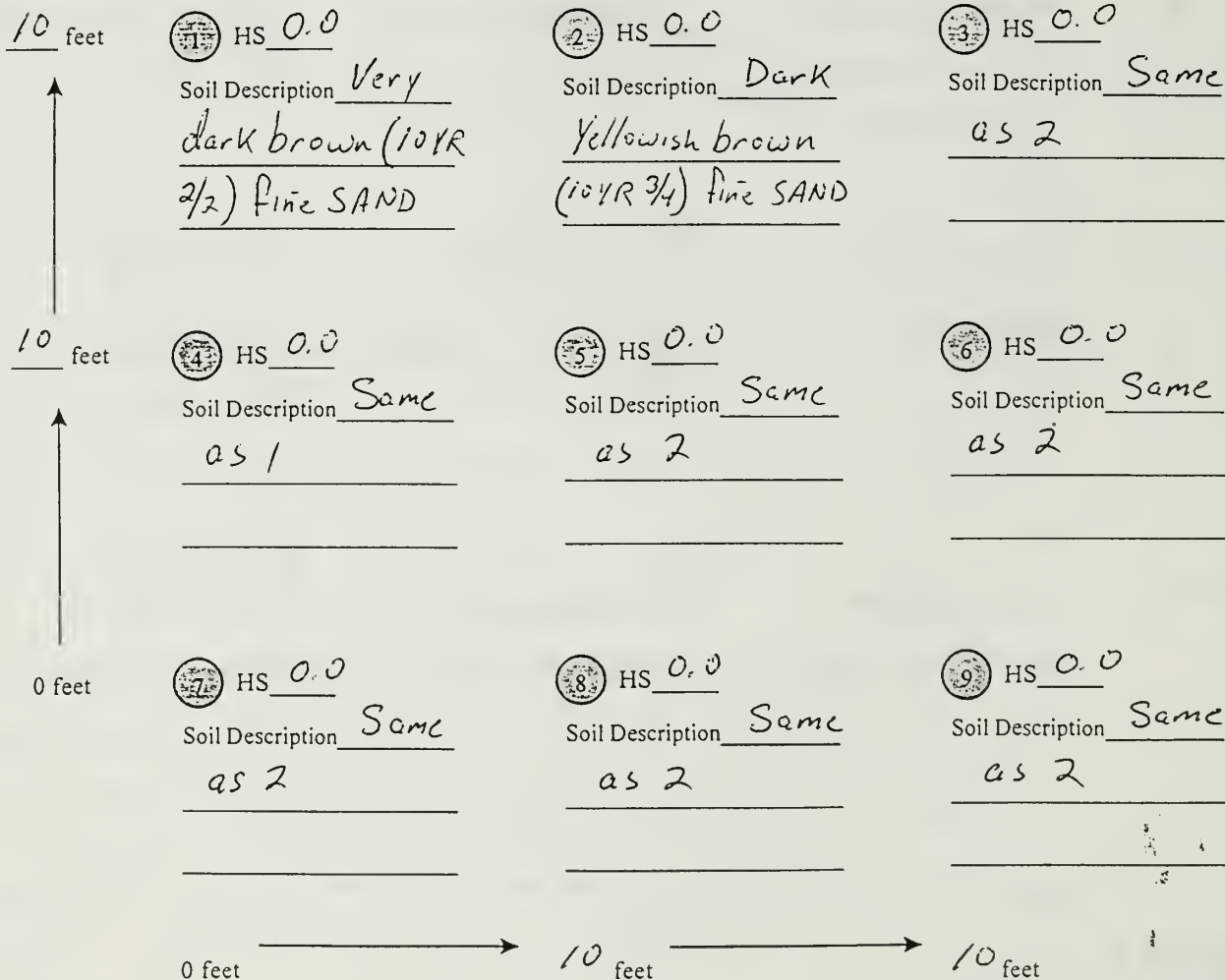
Hand Auger Log

AREA: 8

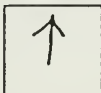
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 08C
SAMPLER(S): FE/JF/KD DATE: 1-30-98 (0-6") (18-24")
REMARKS: _____

Sample Time: 1040 (0-6") (18-24") Sample ID: B08CBA (0-6") (18-24")

VOC grab sample was collected from boring: NS



NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 08D

SAMPLER(S): Tim D, Jerry C

DATE: 10/23/97 (0-6")

(18-24")

REMARKS: FID background 0.0 ppm

Sample Time: 1150 (0-6")
(18-24")

Sample ID: B08DAA (0-6")
(18-24")

VOC grab sample was collected from boring: #8

~10 feet

① HS 1.2 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: Medium

Soil Description: Same as 1.

Soil Description: Same as 1.

Silty sand with fines

Dark reddish gray 10R3/1

~10 feet

④ HS 1.1 ppm

⑤ HS 0.6 ppm

⑥ HS 0.0 ppm

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 2.3 ppm

⑧ HS 2.6 ppm

⑨ HS 1.3 ppm

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 8

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 08D
SAMPLER(S): FE/JF/KD DATE: _____ (0-6") 1-30-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0955 (18-24") B08DBA (18-24")

VOC grab sample was collected from boring: _____

10 feet



10 feet



0 feet

① HS 0.0
Soil Description Olive
gray (5Y 4/2)
fine SAND

② HS 0.0
Soil Description Bluish
black (5B 2.5/1)
fine SAND

③ HS 0.0
Soil Description Same
as 1

④ HS 0.0
Soil Description Same
as 1

⑤ HS 0.0
Soil Description Same
as 2

⑥ HS 0.0
Soil Description Same
as 1

⑦ HS 0.0
Soil Description Same
as 1

⑧ HS 0.0
Soil Description Same
as 2

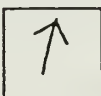
⑨ HS 0.0
Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 08

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 08F
SAMPLER(S): T. DWYER, J. CIPOLLINI DATE: 10-23-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0ppm, DUPLICATE SAMPLE TAKEN.

Sample Time: 1245 (0-6") Sample ID: B08EAA1B08EAD (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #2

~10 feet

① HS 0.0ppm

② HS 3.2ppm

③ HS 0.1ppm

Soil Description: REDDISH
BLACK SILT WITH SOME
FINE SAND, 10R^{2.5}

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0ppm

⑤ HS 1.6ppm

⑥ HS 1.1ppm

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0ppm

⑧ HS 1.9ppm

⑨ HS 0.3ppm

Soil Description: BROWN
SILT WITH SOME
FINE SAND,
10Y⁴/₃

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 08

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 08E
SAMPLER(S): FE/JF/KD DATE: (0-6") 1-30-98 (18-24")
REMARKS: Collected Duplicate

Sample Time: (0-6") Sample ID: (0-6")
0920 (18-24") B08EBA (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description olive
gray (5Y 4/2) fine
SAND



HS 0.0

Soil Description Very
dark brown (10YR
2/2) fine SAND



HS 0.0

Soil Description Same
as 2

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet

10 feet

feet

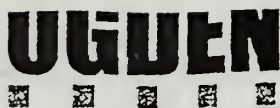
10 feet

feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 9

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 09A

SAMPLER(S): TD, JD

DATE: 9/16/97 (0-6")

(18-24")

REMARKS:

Sample Time: 1425 VOCs, 1410 All (0-6")
(18-24")

Sample ID: B09AAA and B09AAD (0-6")
(18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 1.6

Soil Description: Brown
organic, trace medium
sand.

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.6

Soil Description: Same as 1.

⑤ HS 1.1

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 1.2

Soil Description: Same as 1.

0 feet

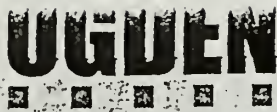
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 09

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 09A

SAMPLER(S): J. Cipollini
F. Esou:BEI

DATE: (0-6") 11-14-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6")
0821 (18-24")

Sample ID: (0-6")
B09ADA/B09ABD (18-24")

VOC grab sample was collected from boring: #7

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT. 10Y5/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME AS
1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 2.6 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 9

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 09B

SAMPLER(S): ID, JD

DATE: 9/16/97

(0-6")

(18-24")

REMARKS:

Sample Time: Vocs 1520, All 1505

(0-6")

Sample ID: B09BAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #2

10 feet

① HS 0.0

② HS 1.2

③ HS 0.8

Soil Description: Light brown

Soil Description:

Soil Description:

organic, trace medium

Same as 1.

Same as 1.

sand.

10 feet

④ HS 0.2

⑤ HS 0.2

⑥ HS 0.1

Soil Description:

Soil Description:

Soil Description:

Same as 1.

Same as 1.

Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.2

⑨ HS 0.8

Soil Description:

Soil Description:

Soil Description:

Same as 1.

Same as 1.

Same as 1.



0 feet

10 feet

10 feet

HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 09B
 SAMPLER(S): F. ESQUIBEL DATE: 11-14-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 0928 (0-6") Sample ID: B09BBA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: # 9

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE OF
FINE SAND, 10% $\frac{5}{4}$

② HS 0.0 ppm

Soil Description: SAME AS
1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

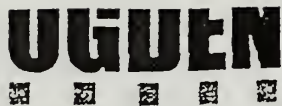
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 9

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 09C

SAMPLER(S): TD, JD

DATE: 9/16/97 (0-6") (18-24")

REMARKS:

Sample Time: 1615 VOCs, 1555 All (0-6") (18-24")

Sample ID: B09CAA (0-6") (18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 1.4

② HS 1.2

③ HS 0.7

Soil Description:

Soil Description:

Soil Description:

Dark brown organic,
trace gravel.

Same as 1.

Same as 1.

10 feet

④ HS 0.4

⑤ HS 0.0

⑥ HS 0.1

Soil Description:

Soil Description:

Soil Description:

Same as 1.

Same as 1.

Same as 1.

0 feet

⑦ HS 0.2

⑧ HS 0.0

⑨ HS 0.0

Soil Description:

Soil Description:

Soil Description:

Same as 1.

Same as 1.

Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 09C

SAMPLER(S): J. Cipollini
F. Ess & W. Del

DATE: _____ (0-6") 11-14-97 (18-24")

REMARKS: CIN BACKGROUND 0.0 ppm

Sample Time: _____ (0-6")
1039 (18-24")

Sample ID: _____ (0-6")
B09C0A (18-24")

VOC grab sample was collected from boring: 48

~10 feet

① HS 0.0 ppm

② HS 4.4 ppm

③ HS 0.0 ppm

Soil Description: YELLOW SILT
BROWN SILT, LARGES OF
FINE SILT 10% S

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 10.5 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 9

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 09D

SAMPLER(S): TD, JD

DATE: 9/16/97

(0-6")

(18-24")

REMARKS:

Sample Time: 1650 VOCs, 1640 All

(0-6")

Sample ID: B09DAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #1

10 feet

1 HS 3.2

2 HS 0.2

3 HS 0.7

Soil Description:

Soil Description:

Soil Description:

Brown organic, trace
gravel.

Same as 1.

Same as 1.

10 feet

4 HS 0.0

5 HS 0.0

6 HS 0.0

Soil Description:

Soil Description:

Soil Description:

Same as 1.

Same as 1.

Same as 1.

0 feet

7 HS 0.0

8 HS 0.0

9 HS 0.1

Soil Description:

Soil Description:

Soil Description:

Same as 1.

Same as 1.

Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 09

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 090

SAMPLER(S): F. ESQUIBEL
J. Cipollini

DATE: (0-6") 11-14-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6")
1117 (18-24")

Sample ID: (0-6")
B090BA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: GRAYISH
BROWN SILT.
10Y 5/2

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
TRACE OF SILT. 10Y 5/6

③ HS 0.0 ppm

Soil Description: SAME AS
2.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

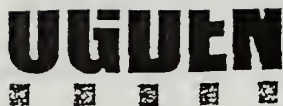
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 9

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 09E

SAMPLER(S): TD, JD

DATE: 9/16/97 (0-6")

(18-24")

REMARKS:

Sample Time: 1745 VOCs, 1725 All (0-6")
(18-24")

Sample ID: B09EAA (0-6")
(18-24")

VOC grab sample was collected from boring: #9

10 feet

① HS 0.0

Soil Description: Light brown organic,
trace gravel

② HS 0.4

Soil Description: Grey-brown
organic, trace gravel,
trace black cinders

③ HS 0.1

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1

⑤ HS 0.7

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 2

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 1.3

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR. J. Cipollini PROJECT NUMBER: 313000103 GRID ID: 09E
 SAMPLER(S): T. STANLEY DATE: 11-17-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: 0825 (0-6") (18-24") Sample ID: B09EBA (0-6") (18-24")

VOC grab sample was collected from boring: H2 20905

~10 feet

① HS 0.0

Soil Description: GRAYISH
BROWN silt, trace
of FINE SAND
10Y 5/2

② HS 0.5 ppm

Soil Description: YELLOWISH
BROWN silt, trace
of FINE SAND
10Y 5/4

③ HS 0.0

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0

Soil Description: SAME
AS 1.

⑤ HS 0.0

Soil Description: Pale
YELLOWISH BROWN
silt.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0

Soil Description: SAME
AS 1.

⑧ HS 0.0

Soil Description: SAME
AS 1.

⑨ HS 0.0

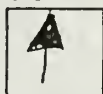
Soil Description: SAME
AS 1.

0 feet

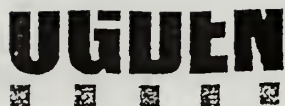
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 10A
SAMPLER(S): TD, JD DATE: 9/17/97 (0-6") (18-24")
REMARKS: FID background 0.0 ppm

Sample Time: 0850VOCs, 0835 All (0-6") Sample ID: B10AAA and B10AAD (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

10 feet	① HS <u>0.0</u> Soil Description: <u>Dark brown organic, trace fine and medium sand.</u>	② HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	③ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
10 feet	④ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑤ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑥ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
0 feet	⑦ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑧ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑨ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>

0 feet → 10 feet → 10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 10A

SAMPLER(S): T. STANLEY
J. Cipollini

DATE: 11-17-97

(0-6")

(18-24")

REMARKS: FID BACKGROUND 0.0 PPM.

18-24" SAMPLE WAS TAKEN AT 13-14" INTERVAL DUE TO REFUSAL CAUSED BY ROCKS.

Sample Time: _____ (0-6")

Sample ID: _____ (0-6")

1147 (18-24")

B 1048A (18-24")

13-16

VOC grab sample was collected from boring: #5

~10 feet

① HS 6.0

Soil Description: YELLOWISH
SILT, TRACE OF FINE
SAND, 10% $\frac{5}{8}$

② HS 0.0

Soil Description: SAME
AS 1.

③ HS 0.0

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0

Soil Description: SAME
AS 1.

⑤ HS 0.0

Soil Description: SAME
AS 1.

⑥ HS 0.0

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0

Soil Description: SAME
AS 1.

⑧ HS 0.0

Soil Description: SAME
AS 1.

⑨ HS 0.0

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 10B

SAMPLER(S): TD, JD

DATE: 9/17/97 (0-6")

(18-24")

REMARKS: FID background 0.0 ppm.

Sample Time: 1000 VOCs, 0945 All (0-6")
(18-24")

Sample ID: B10BAA (0-6")
(18-24")

VOC grab sample was collected from boring: #6

10 feet

① HS 0.0

Soil Description: Dark brown
organic, trace fine and
medium sand, trace gravel.

② HS 0.0

Soil Description: _____
Same as 1.

③ HS 0.0

Soil Description: _____
Same as 1.

10 feet

④ HS 0.0

Soil Description: _____
Same as 1.

⑤ HS 0.0

Soil Description: _____
Same as 1.

⑥ HS 1.3

Soil Description: _____
Same as 1.

0 feet

⑦ HS 0.0

Soil Description: _____
Same as 1.

⑧ HS 0.0

Soil Description: _____
Same as 1.

⑨ HS 0.0

Soil Description: _____
Same as 1.

0 feet

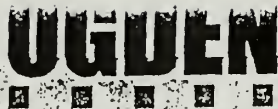
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 10B

SAMPLER(S): T. STANLEY
J. Cipollini

DATE: (0-6") 11-17-97 (18-24")

REMARKS: Fin Back Ground Coppy

Sample Time: (0-6")
150 (18-24")

Sample ID: (0-6")
B1056A (18-24")

VOC grab sample was collected from boring: #5 @ 1513

~10 feet

① HS 0.0

Soil Description: brown
fine sand, some
silt, 10Y 5/3

② HS 0.0

Soil Description: SAME
AS 1

③ HS 0.0

Soil Description: SAME
AS 1

~10 feet

④ HS 0.0

Soil Description: yellowish
brown silt, 10Y 5/6

⑤ HS 0.0

Soil Description: SAME
AS 1

⑥ HS 0.0

Soil Description: SAME
AS 1

0 feet

⑦ HS 0.0

Soil Description: SAME
AS 1

⑧ HS 0.0

Soil Description: SAME
AS 1

⑨ HS 0.0

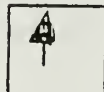
Soil Description: SAME
AS 1

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 10C

SAMPLER(S): TD, JD

DATE: 9/17/97

(0-6")

(18-24")

REMARKS: _____

Sample Time: 1100 VOCs, 1045 All (0-6")
_____ (18-24")

Sample ID: B10CAA (0-6")

(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Dark brown
organic, trace fine sand.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

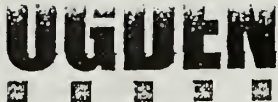
0 feet

10 feet

10 feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR. J. Cipollini PROJECT NUMBER: 313000103 GRID ID: 10 C
SAMPLER(S): T. STANLEY DATE: _____ (0-6") 11-17-97 (18-24")
REMARKS: FID BACK GROUND 0.0 PPM.

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1620 (18-24") B16CBA/B10CBD (18-24")

VOC grab sample was collected from boring: 5

~10 feet

(1) HS _____

Soil Description: UNABLE
to collect sample
after 3 attempts.

(2) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN Silt.

(3) HS 0.0 ppm

Soil Description: SAME
AS 2.

~10 feet

(4) HS 0.0 ppm

Soil Description: SAME
AS 2.

(5) HS 0.0 ppm

Soil Description: SAME
AS 2.

(6) HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

(7) HS 0.0 ppm

Soil Description: SAME
AS 2.

(8) HS 0.0 ppm

Soil Description: SAME
AS 2.

(9) HS 0.0 ppm

Soil Description: SAME
AS 2.

NORTH

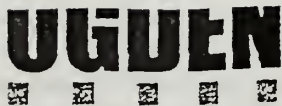


0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 10D

SAMPLER(S): TD, JD

DATE: 9/17/97

(0-6")

(18-24")

REMARKS:

Sample Time: 1200 Vocs, 1140 All (0-6")
(18-24")

Sample ID: B10DAA (0-6")

(18-24")

VOC grab sample was collected from boring: #1

10 feet

① HS 2.0

② HS 0.3

③ HS 0.6

Soil Description: Dark brown
organic, some fine sand
trace medium sand.

Soil Description:

Same as 1.

Soil Description:

Same as 1.

10 feet

④ HS 0.4

⑤ HS 0.0

⑥ HS 0.5

Soil Description:

Same as 1.

Soil Description:

Same as 1.

Soil Description:

Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description:

Same as 1.

Soil Description:

Same as 1.

Soil Description:

Same as 1.

0 feet

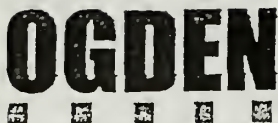
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 10D
SAMPLER(S): J. Cipollini DATE: (0-6") 11-18-97 (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6") Sample ID: (0-6")
0744 (18-24") BIG DATA (18-24")

VOC grab sample was collected from boring: # 5

~10 feet

① HS 0.0 ppm

Soil Description: GRAYISH
BROWN SILT, SAME
SAND. 10Y 4/2

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 10E

SAMPLER(S): TD, JD

DATE: 9/17/97 (0-6")

(18-24")

REMARKS:

Sample Time: VOCs 1305, Allele 1245 (0-6")
(18-24")

Sample ID: B10EAA (0-6")
(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.1

Soil Description: Dark brown
organic, trace fine and
medium sand.

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.2

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 10

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 10E
SAMPLER(S): J. STANLEY DATE: 11-18-97 (0-6") (18-24")
J. Cipollini
REMARKS: FID BACK GROUND 010 PPM.

Sample Time: 0913 (0-6") (18-24") Sample ID: B10EBA (0-6") (18-24")

VOC grab sample was collected from boring: _____

~16 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
FINE SAND. 10Y 5/4

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND,
SOME SILT
10Y 5/4

③ HS 0.0 ppm

Soil Description: GRAYISH
BROWN SILT, TRACE
OF SAND. 10Y 4/2

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: //

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 11A
SAMPLER(S): T. DWYER, J. Lipollini DATE: 10-27-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0920 (0-6") Sample ID: B11AAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet (1) HS 0.0 ppm (2) IIS 0.0 ppm (3) IIS 0.0 ppm
Soil Description: DARK BROWNISH Soil Description: SAME Soil Description: SAME
YELLOWISH SILT, SOME AS I.
ROOTS, TRACES FINE SAND. 10Y 7/4

~10 feet (4) HS 0.0 ppm (5) HS 0.3 ppm (6) IIS 0.0 ppm
Soil Description: SAME Soil Description: SAME Soil Description: SAME
AS I. AS I. AS I.

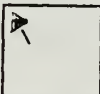
0 feet (7) HS 0.0 ppm (8) IIS 0.0 ppm (9) IIS 0.0 ppm
Soil Description: SAME Soil Description: SAME Soil Description: SAME
AS I. AS I. AS I.

0 feet

~10 feet

~10 feet

NORTH



IIS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: A

SAMPLER(S): F. Esquivel

DATE: _____

(0-6")

2-2-98

(18-24")

REMARKS: J. Ferranti K. Daddario

Sample Time: _____

(0-6")

Sample ID: _____

(0-6")

0830

(18-24")

BS11ABA

(18-24")

VOC grab sample was collected from boring S

10 feet

① HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish Brown
fine Sands

② HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish
Brown fine Sands

③ HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish Brown
fine Sands

10 feet

④ HS 0.0

Soil Description: 10 YR 2/2
Very Dark Brown
fine Sands w/ High Silt
Content

⑤ HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish Brown
fine Sands

⑥ HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish
Brown fine Sands

0 feet

⑦ HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish Brown
fine Sands

⑧ HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish
Brown fine Sands

⑨ HS 0.0

Soil Description: 10 YR 3/6
Dark Yellowish
Brown fine Sands

0 feet

10 feet

10 feet

NORTH



HS: Headspace PPM (0-6")




Hand Auger Log



AREA: 11

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 11B
 SAMPLER(S): T. DWYER, J. CIPOLLINI DATE: 10-27-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0958 (0-6") Sample ID: B11A B4 (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>~10</u> feet 	(1) HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>BROWN silt, trace of</u> <u>SAND. 10Y 3/3</u>	(2) IIS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(3) HS <u>0.0 ppm</u> Soil Description: <u>YELLOWISH</u> <u>BROWN silt, trace</u> <u>of SAND. 10Y 5/4</u>
	<u>~10</u> feet 	(4) HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(5) HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
0 feet 	(7) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	(8) IIS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(9) IIS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 3.</u>

0 feet  ~10 feet  ~10 feet



IIS=Headspace PPM (0-6")



Hand Auger Log

AREA: 11

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 11B

SAMPLER(S): FE/JF/KD DATE: _____ (0-6") 1-30-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1335 (18-24")

Sample ID: _____ (0-6")
B11B3A (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description DARK
Yellowish brown
(10YR 4/4) fine to
very fine SAND



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description DARK
Yellowish brown
(10YR 3/4) fine SAND



HS 0.0

Soil Description Same
as 4



HS 0.0

Soil Description Same
as 4

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

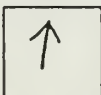
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 11C
 SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-27-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1039 (0-6") Sample ID: B11ACA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② IIS 0.0 ppm

③ HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT,
TRACE SAND. 10Y 4/6

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ IIS 0.0 ppm

⑥ IIS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ IIS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



IIS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: C + Dup.
 SAMPLER(S): F. Esquivel DATE: 1-30-98 (0-6") (18-24")
 REMARKS: J. Ferrante K. Oadeno Considered Duplicate

Sample Time: 1305 (0-6") (18-24") Sample ID: B11CBA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0



Soil Description: 104R 4/6
Dark Yellowish Brown
fine sand w/ slight clay
inclusions

Soil Description: Same

Soil Description: Same

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0



Soil Description: Same

Soil Description: Same

Soil Description: Same

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description: Same

Soil Description: Same

Soil Description: Same

0 feet

10 feet

10 feet



Hand Auger Log

AREA: 11

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 11D
 SAMPLER(S): J. Cipollini, T. DWYER DATE: 10-27-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1255 (0-6") Sample ID: B11ADA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: # 6

~10 feet

① HS 0.0 ppm

Soil Description: DARK
 BROWN SILT, TRACE
 FINE SAND. 10Y 5/6

② HS 0.0 ppm

Soil Description: SAME
 AS 1.

③ HS 0.0 ppm

Soil Description: SAME
 AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
 AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
 AS 1.

⑥ HS 0.1 ppm

Soil Description: SAME
 AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
 1.

⑧ HS 0.0 ppm

Soil Description: SAME
 AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
 AS 1.

NORTH



0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")

UGUEN

Hand Auger Log

AREA: 11

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: D

SAMPLER(S): F. Esquivel

DATE: _____

(0-6")

2-2-98

(18-24")

REMARKS: J. Ferranti K. Dadaro

Sample Time: _____

(0-6")

Sample ID: _____

(0-6")

0945

(18-24")

B11DBA

(18-24")

VOC grab sample was collected from boring: _____

10 feet



① HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

② HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

③ HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

10 feet



④ HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

⑤ HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

⑥ HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

0 feet

⑦ HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

⑧ HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

⑨ HS 0.0

Soil Description: 7.5YR 4/3
Brown fine Sands

0 feet

10 feet

10 feet

NORTH



HS Headspace PPM (0-6")

Hand Auger Log

AREA: 11

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 11 E
 SAMPLER(S): T. DWYER, J. CIPOLLINI DATE: 10-27-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN.

Sample Time: 1334 (0-6") Sample ID: B11AEA/B11AED (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

~5 feet

① HS 0.0 ppm

Soil Description: DARK
BROWN SILTY SANDY
SILT. 10% $\frac{2}{3}$

② HS 0.0 ppm

Soil Description: SAME AS
1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~5 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~5 feet

~5 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: 11

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: ESAMPLER(S): F. Esquivel

DATE: _____

(0-6")

2-2-98

(18-24")

REMARKS: J. Forranti K. Dedariv

Sample Time: _____

(0-6")

Sample ID: _____

(0-6")

0905

(18-24")

B11EBA

(18-24")

VOC grab sample was collected from boring: —12 feet① HS 0.0Soil Description: 10YR 3/3Dark Brown Fine
Sands② HS 0.0Soil Description: 10YR 3/3Dark Brown
Fine Sands③ HS 0.0Soil Description: 10YR 3/3Dark Brown Fine
Sands10 feet④ HS 0.0Soil Description: 10YR 3/3Dark Brown Fine
Sands⑤ HS 0.0Soil Description: 10YR 3/3Dark Brown
Fine Sands⑥ HS 0.0Soil Description: 10YR 3/3Dark Brown
Fine Sands

0 feet

⑦ HS 0.0Soil Description: 10YR 3/3Dark Brown
Fine Sands⑧ HS 0.0Soil Description: 10YR 3/3Dark Brown
Fine Sands⑨ HS 0.0Soil Description: 10YR 3/3Dark Brown
Fine Sands

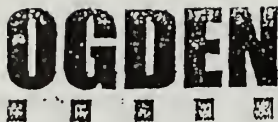
0 feet

10 feet10 feet

NORTH



HS Headspace PPM (0-6")



Hand Auger Log

AREA: 12

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: A

SAMPLER(S): KA + FE

DATE: 1-20-98 (0-6")

(18-24")

REMARKS: DEMO 1

Sample Time: 1330 (0-6")

Sample ID: B12AAA (0-6")

(18-24")

VOC grab sample was collected from boring: S

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0

Soil Description 10YR3/2

Soil Description 10YR3/2

Soil Description 10YR3/2

VERY DK. GREYISH BR. VERY DK. GREYISH BR. VERY DK. GREYISH BR.
VERY FINE-FINE SAND VERY FINE-FINE SAND VERY FINE-FINE SAND

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0

Soil Description 10YR3/2

Soil Description 10YR3/2

Soil Description 10YR3/2

VERY DK. GREYISH BR. VERY DK. GREYISH BR. VERY DK. GREYISH BR.
VERY FINE-FINE SAND VERY FINE-FINE SAND VERY FINE-FINE SAND

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description 10YR3/2

Soil Description 10YR3/2

Soil Description 10YR3/2

VERY DK. GREYISH BR. VERY DK. GREYISH BR. VERY DK. GREYISH BR.
VERY FINE SILTY SAND VERY FINE SAND VERY FINE-FINE SAND

0 feet

10 feet

feet

10 feet

feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: 12

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 12A

SAMPLER(S): RP/JD DATE: _____ (0-6") 3/25/98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
_____ (18-24")

Sample ID: _____ (0-6")
B12ABA (18-24")

VOC grab sample was collected from boring: NS

10 feet



① HS 0

Soil Description Dark
Yellowish brown
CS SAND and Gravel
(10 YR 3/4)

② HS 0

Soil Description Dark
Yellowish brown
Fine SAND (10 YR 4/6)

③ HS 0

Soil Description Browish
Yellow fine SAND
and Gravel (10 YR 6/4)

10 feet



④ HS 0

Soil Description Dark
Yellowish brown
Fine SAND and Gravel
(10 YR 4/4)

⑤ HS 0

Soil Description Dark
Yellowish brown
med SAND and Gravel
(10 YR 4/6)

⑥ HS 0

Soil Description Same
as 5

0 feet

⑦ HS 0

Soil Description Same
as 4

⑧ HS 0

Soil Description Same
as 5

⑨ HS 0

Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 12

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 12B

SAMPLER(S): KD/FE/JF DATE: 2-4-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0845 (0-6") Sample ID: B12BAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

Soil Description Dark
brown (10YR 3/3)
fine SAND

② HS 0.0

Soil Description Same
as 1

③ HS 0.0

Soil Description Same
as 1

10 feet

④ HS 0.0

Soil Description Same
as 1

⑤ HS 0.0

Soil Description Same
as 1

⑥ HS 0.0

Soil Description Same
as 1

0 feet

⑦ HS 0.0

Soil Description Same
as 1

⑧ HS 0.0

Soil Description Same
as 1

⑨ HS 0.0

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

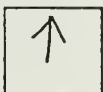
AREA: 12

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 12B
SAMPLER(S): RP/JD DATE: _____ (0-6") 3-25-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
_____ (18-24") B12 BBA (18-24")
VOC grab sample was collected from boring: 5

<div>10 feet</div> <div>↑</div> <div>10 feet</div> <div>↑</div> <div>0 feet</div>	<div>① HS <u>0</u></div> <div>Soil Description <u>Dark</u></div> <div><u>brown (10YR 3/3)</u></div> <div><u>med SAND and Gravel</u></div>	<div>② HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as 1</u></div> <div>_____</div>	<div>③ HS <u>0</u></div> <div>Soil Description <u>Light</u></div> <div><u>Yellowish brown (10YR 6/4)</u></div> <div><u>med SAND and Gravel</u></div>
	<div>④ HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as 1</u></div> <div>_____</div>	<div>⑤ HS <u>0</u></div> <div>Soil Description <u>Dark</u></div> <div><u>brown (10YR 3/3)</u></div> <div><u>med SAND, some gravel</u></div>	<div>⑥ HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as 5</u></div> <div>_____</div>
	<div>⑦ HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as 1</u></div> <div>_____</div>	<div>⑧ HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as 1</u></div> <div>_____</div>	<div>⑨ HS <u>0</u></div> <div>Soil Description <u>Same</u></div> <div><u>as 1</u></div> <div>_____</div>
0 feet	→ 10 feet	→ 10 feet	→ 10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: # C
 SAMPLER(S): Ferrin Eggel DATE: 2-4-99 (0-6") (18-24")
 REMARKS: K. Daderio J. Ferranti

Sample Time: 0800 (0-6") Sample ID: BIZCAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

Soil Description: 10 yr
3/4 dark brown
fine sands

② HS 0.0

Soil Description: 10 yr 3/4
dark brown fine
sands

③ HS 0.0

Soil Description: 10 yr
3/4 dark brown
fine sands

10 feet

④ HS 0.0

Soil Description: 10 yr
3/4 dark brown
fine sands

⑤ HS 0.0

Soil Description: 10 yr
3/4 dark brown
fine sands

⑥ HS 0.0

Soil Description: 10 yr
3/4 dark brown
fine sands

0 feet

⑦ HS 0.0

Soil Description: 10 yr
3/4 dark brown fine
sands

⑧ HS 0.0

Soil Description: 10 yr
3/4 dark brown
fine sands

⑨ HS 0.0

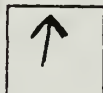
Soil Description: 10 yr
3/4 dark brown
fine sands

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 12

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 12 C

SAMPLER(S): RP/JD DATE: 3/25/98 (0-6") (18-24")

REMARKS: AVOC Sample was collected from point 1

Sample Time: 1320 (0-6") (18-24")

Sample ID: B12CBA (0-6") (18-24")

VOC grab sample was collected from boring: 1

10 feet



HS 0

Soil Description Dark
Yellowish brown (10YR
4/6) fine SAND and
Silt, some gravel



HS 0

Soil Description Dark
brown (10YR 3/3)
fine SAND and Silt



HS 0

Soil Description Same
as 1

10 feet



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 2



HS 0

Soil Description Same
as 1

0 feet



HS 0

Soil Description Same
as 2



HS 0

Soil Description No
Sample



HS 0

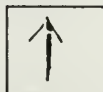
Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 12D
 SAMPLER(S): F. ESQUIBEL DATE: 11-13-97 (0-6") (18-24")
 J. CIPOLLINI

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1600 (0-6") Sample ID: B12DAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5 @ 1311

~10 feet 	① HS 0.0 ppm Soil Description: YELLOWISH BROWN FINE SAND, SOME SILT. 10 1/4"	② HS 0.0 ppm Soil Description: SAME AS 1.	③ HS 0.0 ppm Soil Description: SAME AS 1.
	④ HS 0.0 ppm Soil Description: SAME AS 1.	⑤ HS 0.0 ppm Soil Description: SAME AS 1.	⑥ HS 0.0 ppm Soil Description: SAME AS 1.
	⑦ HS 0.0 ppm Soil Description: SAME AS 1.	⑧ HS 0.0 ppm Soil Description: SAME AS 1.	⑨ HS 0.0 ppm Soil Description: DARK YELLOWISH BROWN SILT, TRACE OF FINE SAND. 10 1/4"

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 12

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 12 D

SAMPLER(S): SJ/PP/KM

DATE: N/A

(0-6") 3-13-98 (18-24")

REMARKS:

Sample Time: 0845 (0-6") (18-24")

Sample ID: B12DBA (0-6") (18-24")

VOC grab sample was collected from boring:

10 feet

① HS ϕ

Soil Description: 10YR 7/2

LIGHT GRAY

fine Sand, some gravel
silt

② HS ϕ

Soil Description: 10YR 7/3

LIGHT Pale Gray

See ①

③ HS ϕ

Soil Description: 10YR 3/1

Very Dark Gray

fine Sand + silt
See Gravel

10 feet

④ HS ϕ

Soil Description: See ①

⑤ HS ϕ

Soil Description: 10YR 7/8

Yellow-fine Sand +
silt

⑥ HS ϕ

Soil Description: 10YR 4/1

DARK GRAY

fine Sand + silt

0 feet

⑦ HS ϕ

Soil Description: 10YR 5/6

Yellowish Brown

fine to med Sand
Some silt, some Gravel

⑧ HS ϕ

Soil Description: 10YR 6/6

brownish Yellow

fine to med Sand
some silt

⑨ HS ϕ

Soil Description: 10YR 3/6

fine Sand

Dark yellowish brown

0 feet

10 feet

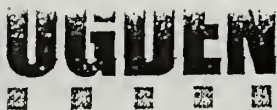
10 feet

NORTH



MM

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 12

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 12E
SAMPLER(S): F. ESQUIBEL DATE: 11-13-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1535 (0-6") Sample ID: B12EAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: yellowish
brown FINE SAND,
+ trace of silt. 10Y 5/4

② HS 0.0 ppm

Soil Description: SAME AS
1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

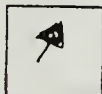
⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT,
10Y 5/6

NORTH



0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")

OGDEN

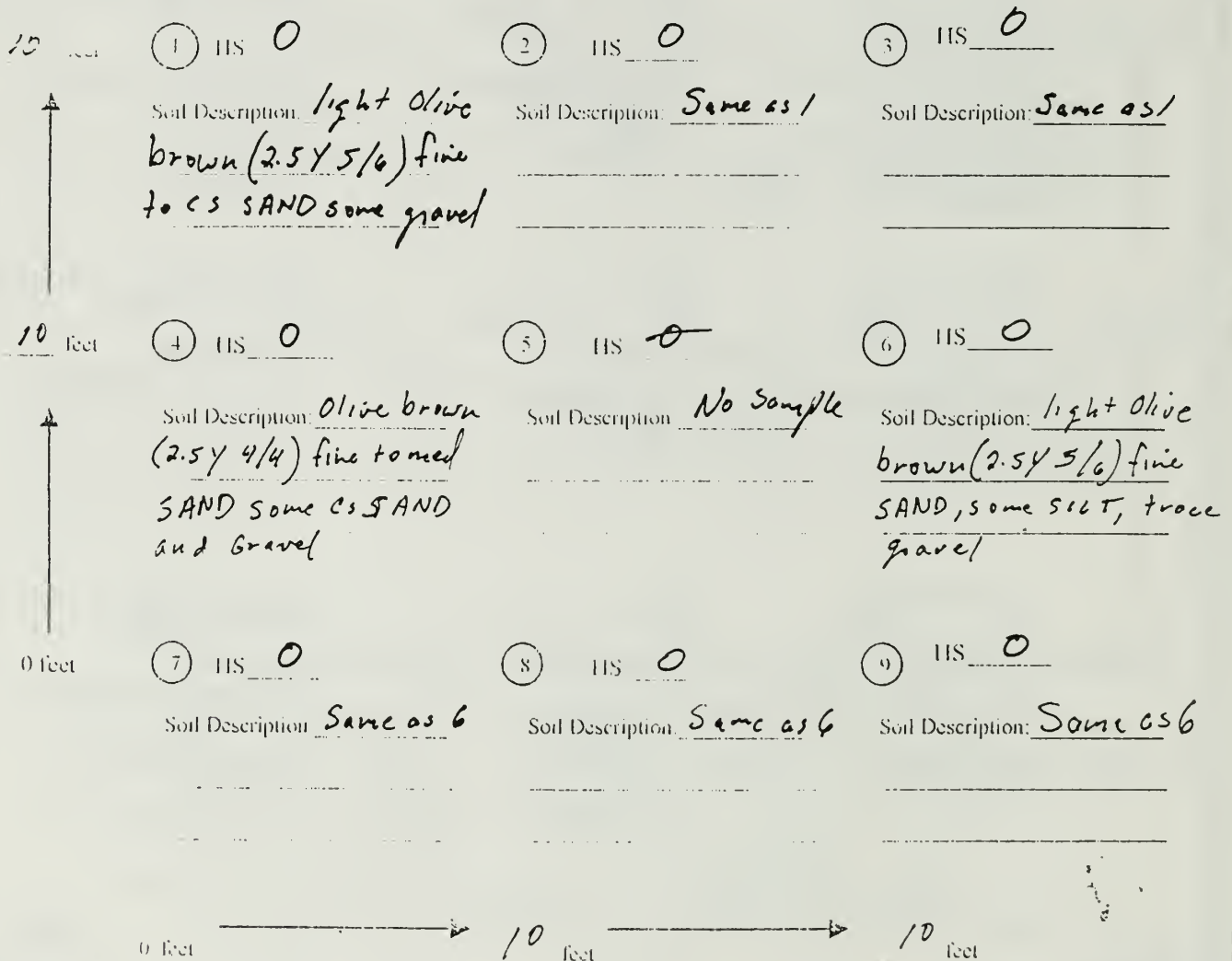
Hand Auger Log

AREA: 12

PROJECT NAME: MMIR PROJECT NUMBER: 313000103 GRID ID: 12E
SAMPLER(S): BG/KM DATE: _____ (0-6") 3-12-88 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0920 (18-24") B12EBA (18-24")

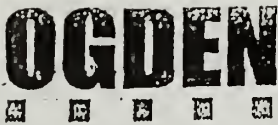
VOC grab sample was collected from boring: _____



NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 12

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: F

SAMPLER(S): F. Fesewald

DATE: 1-8-98

(0-6")

(18-24")

REMARKS: J. Ferranti K. Dadaro

Sample Time: 1355

(0-6")

Sample ID: B12FAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description:

SYR2.5/2

Soil Description:

10YR3/4

Soil Description:

SYR2.5/2

DK. REDDISH BR

DK. YELLOWISH BR

DK. REDDISH BR

VERY FINE
SILTY SAND

CLAYEY SILT

VERY FINE
SILTY SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description:

SYR2.5/2

Soil Description:

SYR2.5/2

Soil Description:

DK. REDDISH BR. DK. REDDISH BR

VERY FINE
SILTY SAND

VERY FINE
SILTY SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description:

SYR2.5/2

Soil Description:

SYR2.5/2

Soil Description:

2. SYR2.5/2

DK. REDDISH BR

DK. REDDISH BR

VERY DUSKY RED

VERY FINE
SILTY SAND

VERY FINE
SILTY SAND

SANDY SILT

0 feet

10 feet

10 feet

NORTH



HS: Headspace PPM (0-6")

Hand Auger Log

AREA: 12

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 12F

SAMPLER(S): WG DATE: 4-14-98 (0-6") (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1430 (18-24") B12FBA (18-24")

VOC grab sample was collected from boring: —

10 feet

① HS —

Soil Description Yellowish.

brown (10YR 5/6)

fine SAND, some
silt, trace gravel

② HS —

Soil Description Same

as 1

③ HS —

Soil Description Same

as 1

10 feet

④ HS —

Soil Description Same

as 1

⑤ HS —

Soil Description Same

as 1

⑥ HS —

Soil Description Same

as 1

0 feet

⑦ HS —

Soil Description Same

as 1

⑧ HS —

Soil Description Same

as 1

⑨ HS —

Soil Description Same

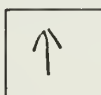
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 13A
 SAMPLER(S): T. LUYER, J. C. POILLY DATE: 10-28-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND CONC.

Sample Time: 1345 (0-6") Sample ID: B13AAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: YELLOWISH
 BROWN MEDIUM
 SAND, TRACE OF SILT.
 10Y5
 4

Soil Description: Same as 1.

Soil Description: Same as 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

NORTH



0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: A
SAMPLER(S): KD, FE, & JF DATE: 2-4-98 (0-6") (18-24")
REMARKS: _____

Sample Time: 1430 (0-6") (18-24") Sample ID: B13ABA (0-6") (18-24")

VOC grab sample was collected from boring: -

10 feet

① HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

② HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

③ HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

10 feet

④ HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

⑤ HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

⑥ HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

0 feet

⑦ HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

⑧ HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

⑨ HS 0.0

Soil Description: 10YR4/3

Brown
FINE SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 13

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 13B

SAMPLER(S): J. DWYER, J. CIRILLINI DATE: 10-28-97 (0-6") _____ (18-24")

REMARKS: FID BACKGROUND 0.0ppm

Sample Time: 1430 (0-6")
(18-24")

Sample ID: B13 B A A (0-6:)
(18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS C.C.P.M

② HS 0.0 ppm

③ IIS O.C.P.F.M

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND
10 Y 5
4

Soil Description: Same as 1.

Soil Description: *Same as 1.*

with feet

④ HS c.c. pfm

5 HS O.C. JFM

(6) IIS 0.0 ppm

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: *Same as 1.*

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

(1) 115 O. C. P. M

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: *Same as 1.*

0 feet

~ 10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 13B
SAMPLER(S): KD/FE/JF DATE: 2-4-98 (0-6") (18-24")
REMARKS: _____

Sample Time: 1530 (0-6") (18-24") Sample ID: B13BBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0.0

Soil Description Brown
(10 YR 4/3) fine
SAND



HS 0.0

Soil Description Dark
reddish brown
(5 YR 5/2) fine SAND



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Dark
brown (10 YR 3/3)
fine SAND, some clay



HS 0.0

Soil Description Same
as 5:

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Dark
brown (10 YR 3/3)
fine SAND



HS 0.0

Soil Description Dark
reddish brown (5 YR
5/2) fine SAND

0 feet

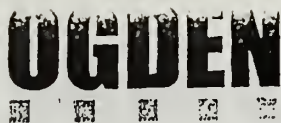
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 13
SAMPLER(S): J. Cipolimi, T. Dwyer DATE: 10-28-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1502 (0-6") Sample ID: B13CAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND, TRACE
OF SILT. 10Y 5/6

Soil Description: Same as 1.

Soil Description: Same as 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 13C
SAMPLER(S): KD/FE/JF DATE: _____ (0-6") 2-5-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0830 (18-24") B13CBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



① HS 0.0
Soil Description Yellowish
brown (10YR 5/4)
very fine SAND

② HS 0.0
Soil Description Same
as 1

③ HS 0.0
Soil Description Same
as 1

10 feet



④ HS 0.0
Soil Description Same
as 1

⑤ HS 0.0
Soil Description Same
as 1

⑥ HS 0.0
Soil Description Same
as 1.

0 feet

⑦ HS 0.0
Soil Description Same
as 1

⑧ HS 0.0
Soil Description Same
as 1

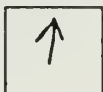
⑨ HS 0.0
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

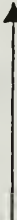

Hand Auger Log

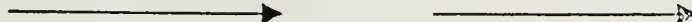
AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 13 D
 SAMPLER(S): T. DWYER, J. CIPOLLINI DATE: 10-29-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 0755 (0-6") Sample ID: B13 DAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: # 5

<u>~10</u> feet 	① HS <u>0.0 ppm</u> Soil Description: <u>YELLOWISH</u> <u>BROWN FINE SAND,</u> <u>TRACE OF SILT. 10YR 5/4</u>	② HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	
	<u>~10</u> feet 	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
	0 feet 	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>

0 feet  ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 13D
SAMPLER(S): KD/FE/JE DATE: 2-5-98 (0-6") (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0930 (18-24") B13DBA (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0
Soil Description Yellowish
brown (10YR 5/4)
Very fine SAND

② HS 0.0
Soil Description Same
as 1

③ HS 0.0
Soil Description Same
as 1

10 feet

④ HS 0.0
Soil Description Brown
(10YR 4/3) very
fine SAND

⑤ HS 0.0
Soil Description Same
as 4

⑥ HS 0.0
Soil Description Same
as 4

0 feet

⑦ HS 0.0
Soil Description Same
as 4

⑧ HS 0.0
Soil Description Same
as 4

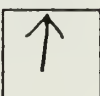
⑨ HS 0.0
Soil Description Same
as 4

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

M M M M M

Hand Auger Log

AREA: 13

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 13E

SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-29-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN

Sample Time: 1024 VOC
0848AHEISC (0-6")
(18-24")Sample ID: B13EAD/B13EAD (0-6")
(18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND, TRACE
OF SILT.
10Y 5/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 13E

SAMPLER(S): KD/FE/JF DATE: _____ (0-6") 2-5-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1030 (18-24")

Sample ID: _____ (0-6")
B13EBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0.0

Soil Description Black
(10YR 2/1) very
fine SAND

② HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/4) very fine
SAND

③ HS 0.0

Soil Description Same
as 2

10 feet

④ HS 0.0

Soil Description Dark
Greyish brown (10YR
4/2) very fine SAND
some clay

⑤ HS 0.0

Soil Description Same
as 4

⑥ HS 0.0

Soil Description Same
as 2

0 feet

⑦ HS 0.0

Soil Description Dark
brown (10YR 3/3)
very fine SAND

⑧ HS 0.0

Soil Description Same
as 2

⑨ HS 0.0

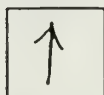
Soil Description Same
as 7.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: F

SAMPLER(S): F. Esquivel

DATE: 1-21-98

(0-6")

(18-24")

REMARKS: J. Ferranti K. Dalario

Sample Time: 1430

(0-6")

Sample ID: B13FAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: SYR3/2

Soil Description: SYR3/2

Soil Description: SYR3/2

DK REDDISH BR

DK REDDISH BR

DK REDDISH BR.

VERY FINE SAND

VERY FINE SAND

VERY FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 7. SYR4/4

Soil Description: 7. SYR4/4

Soil Description: SYR3/2

BROWN

DK REDDISH BR

DK REDDISH BR

VERY FINE SAND

VERY FINE SAND

VERY FINE SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SYR3/2

Soil Description: 7. SYR4/4

Soil Description: SYR3/2

DK REDDISH BR

BROWN

DK REDDISH BR

VERY FINE SAND

VERY FINE SILTY SAND

VERY FINE SAND

0 feet

10

feet

10

feet

NORTH



HS = Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 13F

SAMPLER(S): RP/JD DATE: 3-24-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1650 (0-6") (18-24")

Sample ID: B13FBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0
Soil Description Grayish brown (10YR 5/2)
SAND, some silt and gravel

② HS 0
Soil Description Yellowish brown (10YR 5/6)
fine SAND, trace silt and gravel

③ HS 0
Soil Description Light yellowish brown (10YR 6/4)
med SAND, trace fine SAND, and gravel

10 feet

④ HS 0
Soil Description Yellowish brown (10YR 5/4)
med SAND, some fine sand and gravel

⑤ HS 0
Soil Description Dark Yellowish brown (10YR 5/4)
med SAND, trace gravel

⑥ HS 0
Soil Description Same as 5.

0 feet

⑦ HS 0
Soil Description Yellowish brown (10YR 5/4)
med to CS SAND, some gravel

⑧ HS 0
Soil Description Yellowish brown (10YR 5/4)
med SAND, trace gravel

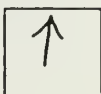
⑨ HS 0
Soil Description Yellowish brown (10YR 5/4)
fine SAND and silt, trace gravel

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 6
 SAMPLER(S): F. Esquivel DATE: 1-21-98 (0-6") (18-24")
 REMARKS: J. Ferranti K. Daddario

Sample Time: 1405 (0-6") Sample ID: B136AA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____

10 feet	(1) HS 0.0 Soil Description: 10 PR 1/2 U. Dark Brown Sandy clay	(2) HS 0.0 Soil Description: 2.5Y 5/4 light Olive brown dry Sandy clay	(3) HS 0.0 Soil Description: 10 PR 1/2 U. Dark Brown Sandy clay
10 feet	(4) HS 0.0 Soil Description: 10 PR 1/2 U. Dark Brown Sandy clay	(5) HS 0.0 Soil Description: 10 PR 1/2 U. Dark Brown Sandy clay	(6) HS 0.0 Soil Description: 10 PR 1/2 U. Dark Brown Sandy clay
0 feet	(7) HS 0.0 Soil Description: 2.5Y 5/4 light Olive brown Dry Sandy clay	(8) HS 0.0 Soil Description: 2.5Y 5/4 light Olive brown Dry Sandy clay	(9) HS 0.0 Soil Description: 10 PR 1/2 U. Dark Brown Sandy clay

0 feet 10 feet 10 feet



HS: Headspace PPM (0-6")



Hand Auger Log

AREA: Demo 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 136

SAMPLER(S): RP/JD

DATE: _____ (0-6")

3/25/98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0820 (18-24")

Sample ID: _____ (0-6")
B136-BA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR 6/3
pale brown fine sand
+ silt

② HS 0

Soil Description: 10YR 6/4
light yellowish brown fine
sand + silt

③ HS 0

Soil Description: 10YR 6/6
grayish yellow fine
sand + silt

10 feet

④ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
fine sand + silt w/ some organic
soil.

⑤ HS 0

Soil Description: 10YR 5/4
yellowish brown fine
sand

⑥ HS 0

Soil Description: 10YR 4/4
dark yellowish brown
fine sand

0 feet

⑦ HS 0

Soil Description: 10YR 5/4
yellowish brown fine
sand + silt

⑧ HS 0

Soil Description: 10YR 6/6
grayish yellow fine sand

⑨ HS 0

Soil Description: 10YR 7/6
yellow V. fine sand

0 feet

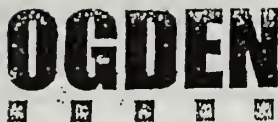
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: H
SAMPLER(S): F. Esp. vial DATE: 1-21-98 (0-6") (18-24")
REMARKS: J. Ferrati K. Daddario

Sample Time: 1345 (0-6") Sample ID: B13HAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 7.5YR3/4
Dark Brown Med
Sands w/silt

Soil Description: 5Y4/3
Olive Med Sands
w/ Pebble Inclusion

Soil Description: 7.5YR3/4
Dark Brown
Med Sands w/silt

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 7.5YR3/4
Dark Brown
Med Sands w/silt

Soil Description: 7.5YR3/4
Dark Brown
Med Sands w/silt

Soil Description: 7.5YR3/4
Dark Brown
Med Sands w/silt

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 2.5Y5/3
Light Olive Brown
Med Sands w/clay

Soil Description: 7.5YR3/4
Dark Brown
Med Sands w/silt

Soil Description: 7.5YR3/4
Dark Brown
Med Sands w/silt

0 feet

10 feet

10 feet

NORTH

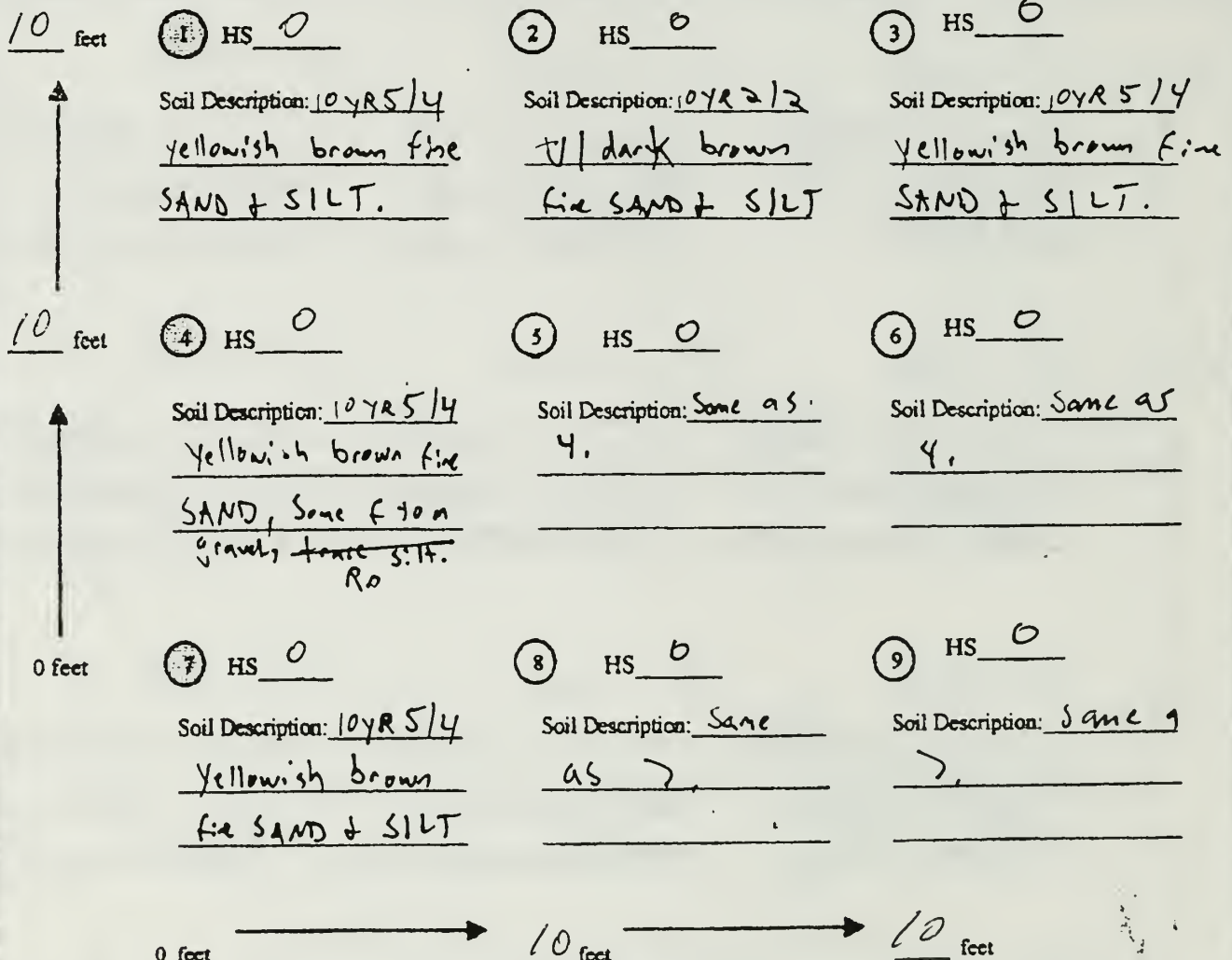


HS Headspace PPM (0-6")

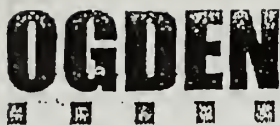
PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 13H
 SAMPLER(S): RP/JD DATE: _____ (0-6") 3.25.98 (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
9:15 (18-24") 1313 HBA (18-24")

VOC grab sample was collected from boring: _____



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: I

SAMPLER(S): F. Esquivel

DATE: 1-21-98

(0-6")

(18-24")

REMARKS: J. Foran

& D. Dalar

Sample Time:

1310

(0-6")

Sample ID:

B13.1AA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 7.5 YR 2.5/3

Soil Description: 7.5 YR 2.5/3

Soil Description: 7.5 YR 2.5/3

Very Dark Brown
Silt (Organics)

U. Dark Brown
Silt (Organics)

U. Dark Brown
Silt (Organics)

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 7.5 YR 2.5/3

Soil Description: 7.5 YR 2.5/3

Soil Description: 7.5 YR 2.5/3

U. Dark Brown
Silt (Organics)

U. Dark Brown
Silt (Organics)

U. Dark Brown
Silt Organics

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 7.5 YR 2.5/3

Soil Description: 7.5 YR 2.5/3

Soil Description: 7.5 YR 2.5/3

U. Dark Brown
Silt (Organics)

U. Dark Brown
Silt (Organics)

U. Dark Brown
Silt (Organics)

0 feet

10 feet

10 feet

NORTH



HS: Headspace PPM (0-6")



Hand Auger Log

AREA: Demo 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 13 I

SAMPLER(S): RP/50

DATE: ~

(0-6")

3/25/96 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")

0950 (18-24")

Sample ID: _____ (0-6")

B13I13A (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR 4/6
Dark Yellowish brown
v. fine sand & silt

② HS 0

Soil Description: 10YR 4/4
Dark Yellowish brown
v. fine sand & silt

③ HS 0

Soil Description: 10YR 6/6
Brownish Yellow fine
sand

10 feet

④ HS 0

Soil Description: 10YR 3/6
Dark Yellowish Brown
organic soil & fine sand

⑤ HS 0

Soil Description: Same as 4

⑥ HS 0

Soil Description: Same as 4

0 feet

⑦ HS 0

Soil Description: Same as 4

⑧ HS 0

Soil Description: Same as 4

⑨ HS 0

Soil Description: Same as 4

0 feet

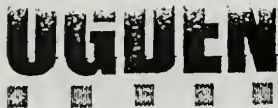
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 41I
SAMPLER(S): J. Cipollini, F. Esquivel DATE: (0-6") 11-5-97 (18-24")
REMARKS: FID BACKGROUND OF +0 2.0 ppm.

Sample Time: (0-6") 1504 (18-24") Sample ID: (0-6:) B41IBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 2.1 ppm

② HS 0.4 ppm

③ HS 0.5 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OFF-FINE SAND,
10Y 5/8

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.2 ppm

⑤ HS 0.5 ppm

⑥ HS 0.2 ppm

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.5 ppm

⑨ HS 0.2 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

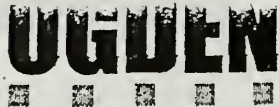
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41J

SAMPLER(S): J. Cipollini, F. Esquivel DATE: 11-5-97 (0-6") (18-24")

REMARKS: FIP BACKGROUND 0.0 - 2.0 ppm.

Sample Time: 1536 (0-6") (18-24")

Sample ID: B41JAA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 2.1 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND. 10% S

② HS 1.4 ppm

Soil Description: SAME
AS 1.

③ HS 0.4 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.1 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.5 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.4 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 42

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42A
SAMPLER(S): Tim Dwyer, Kaela Soto DATE: 12/15/97 (0-6") (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1400 (18-24") B42ABA (18-24")

VOC grab sample was collected from boring: Not taken

10 feet	① HS <u>0.0</u> Soil Description: <u>medium</u> <u>some fines, trace gravel</u> <u>trace organic, yellowish</u> <u>brown 10 Y, 5/5</u>	② HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	③ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
10 feet	④ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑤ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑥ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
0 feet	⑦ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑧ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑨ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>

0 feet → 10 feet → 10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42A
 SAMPLER(S): Tim Dwyer, Kaela Setnick DATE: 12/15/97 (0-6") (18-24")
 REMARKS:

Sample Time: 1310 (0-6") Sample ID: B42 AAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: Not taken

10 feet	① HS 0.0 Soil Description: Organic with Medium, some fines, dark reddish brown 5YR, 3/2	② HS 0.0 Soil Description: Same as 1.	③ HS 0.0 Soil Description: Same as 1.
10 feet	④ HS 0.0 Soil Description: Same as 1.	⑤ HS 0.0 Soil Description: Same as 1.	⑥ HS 0.0 Soil Description: Same as 1.
0 feet	⑦ HS 0.0 Soil Description: Same as 1.	⑧ HS 0.0 Soil Description: Same as 1.	⑨ HS 0.0 Soil Description: Same as 1.

0 feet 10 feet 10 feet



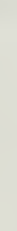


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42B
 SAMPLER(S): Tim Dwyer, Kaela Snick DATE: 12/15/97 (0-6") (18-24")
 REMARKS: FID background: 0.0 ppm

Sample Time: 1520 (0-6") Sample ID: B42BAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____

<u>10</u> feet 	① HS <u>0.0</u> Soil Description: <u>Organic, some medium sand, trace fines, very dark greyish brown 10YR 3/2</u>	② HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	③ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
<u>10</u> feet 	④ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑤ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑥ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
0 feet 	⑦ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑧ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑨ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>

0 feet → 10 feet → 10 feet



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42B
 SAMPLER(S): K. Sotnik, T. Dwyer DATE: _____ (0-6") 12/16/97 (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
08:45 (18-24") B42 BBA (18-24")

VOC grab sample was collected from boring: _____

<p>10 feet</p> <p>↑</p>	<p>① HS <u>0.0</u></p> <p>Soil Description: <u>medium sand</u> <u>with fines, trace gravel,</u> <u>trace organic; yellowish</u> <u>brown, 10 YR 5/8</u></p>	<p>② HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>③ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<p>10 feet</p> <p>↑</p>	<p>④ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑤ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑥ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<p>0 feet</p>	<p>⑦ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑧ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑨ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>

0 feet → 10 feet → 10 feet



PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42C
 SAMPLER(S): Tim Dwyer, Kadea Sotnik DATE: 12/14/97 (0-6") (18-24")
 REMARKS: _____

Sample Time: 0945 (0-6") Sample ID: B42CAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____

<p><u>10</u> feet</p> <p>↑</p>	<p>① HS <u>0.0</u></p> <p>Soil Description: <u>Organic</u> <u>with Medium sand, trace fines.</u> <u>dark reddish brown 5YR 3/3</u></p>	<p>② HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>③ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<p><u>10</u> feet</p> <p>↑</p>	<p>④ HS <u>0.0</u></p> <p>Soil Description: <u>same as 1.</u></p>	<p>⑤ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑥ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<p>0 feet</p>	<p>⑦ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑧ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑨ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<p>0 feet</p>	<p>→ <u>10</u> feet → <u>10</u> feet</p>		



PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42 C

SAMPLER(S): Tim Dwyer, Kaela Sotnick DATE: 12/16/97 (0-6") (18-24")

REMARKS:

Sample Time: 10:30 (0-6") (18-24")

Sample ID: B42CBA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: silty
medium sand with fines;
yellowish brown, 10YR 5/8

Soil Description: SAME as 1.

Soil Description: SAME as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

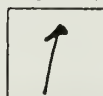
Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42D

SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 12/16/97 (0-6") (18-24")

REMARKS:

Sample Time: 1150 (0-6")
(18-24")

Sample ID: B42DAA and B42DAD (0-6")
(18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Dark yellowish
brown 10 YR 3/6, Organic
Some medium sand, trace fines

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42D
 SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: (0-6") 12/16/97 (18-24")
 REMARKS: _____

Sample Time: (0-6") 12:40 (18-24") Sample ID: (0-6:) B42 DBA + B42 DBD (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0



Soil Description: medium sand
with n/s, trace gravel,
trace some silt; 10YR 5/8

Soil Description: Same as 1.

Soil Description: Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0



Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42E

SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 12/16/97 (0-6") (18-24")

REMARKS:

Sample Time: 1420 (0-6")
(18-24")

Sample ID: B42EAA (0-6")
(18-24")

VOC grab sample was collected from boring:

10 feet

① HS 0.0

Soil Description: Organic with
medium sand, sometimes
Dark yellowish brown 10YR, 4/4

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

NORTH



0 feet

10 feet

10 feet

HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42 E

SAMPLER(S): Tim Dwyer, Kaela Smith DATE: 12/16/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 15:00 (0-6") (18-24")

Sample ID: B42EBA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: silty
Medium sand, trace gravel,
some fines, yellowish brown
10 yr, 5/8

Soil Description: SAME as 1.

Soil Description: SAME as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42F
 SAMPLER(S): Tim Dwyer, Kadea Sothik DATE: 12/16/97 (0-6") (18-24")
 REMARKS:

Sample Time: 1540 (0-6") Sample ID: B42 FAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring:

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Organic
 trace medium sand, trace fines
 75YR Strong brown 4/6

Soil Description: same as 1.

Soil Description: Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: same as 1.

Soil Description: same as 1.

Soil Description: same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: same as 1.

Soil Description: same as 1.

Soil Description: same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42F

SAMPLER(S): Karla Sotnik + Tim Dwyer



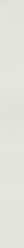
DATE: _____ (0-6") 12/16/97 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
16:20 (18-24")

Sample ID: _____ (0-6")
B42FBA (18-24")

VOC grab sample was collected from boring: _____

<u>10</u> feet 	<p>① HS <u>0.0</u></p> <p>Soil Description: <u>Silty medium sand with fines, yellowish brown 10 yr, 5/8</u></p>	<p>② HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>③ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<u>10</u> feet 	<p>④ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑤ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑥ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<u>0</u> feet 	<p>⑦ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑧ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑨ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>

0 feet
10 feet
10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 426

SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 12/17/97 (0-6") _____ (18-24")

REMARKS: _____

Sample Time: 0745 (0-6")

(18-24")

Sample ID: B42GAA (0-6")

(18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Organic, some
medium sand, trace fines
reddish brown 5YR 4/3.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42 G

SAMPLER(S): Kaela Sotnik, Tim Dwyer DATE: 12/17/97 (18-24")

REMARKS: _____

Sample Time: 08:30 (18-24")

Sample ID: B42 GBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Silty
Medium sand with fines
trace gravel; 10 yr ^{5/8}
yellowish brown

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

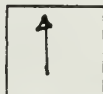
Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42H

SAMPLER(S): Tim Dwyer, Kaela Smith DATE: 12/17/97 (0-6") (18-24")

REMARKS:

Sample Time: 0915 (0-6") (18-24")

Sample ID: B42HAA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Organic with medium sand and fines, dark grey 7.5YR 4/1

② HS 0.0

Soil Description: SAME as 1.

③ HS 0.0

Soil Description: SAME as 1.

10 feet

④ HS 0.0

Soil Description: SAME as 1.

⑤ HS 0.0

Soil Description: SAME as 1.

⑥ HS 0.0

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

Soil Description: SAME as 1.

⑧ HS 0.0

Soil Description: SAME as 1.

⑨ HS 0.0

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42H
 SAMPLER(S): Kaela Sotnik, Tim Dwyer DATE: _____ (0-6") 12/17/97 (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0950 (18-24") B42HBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0



Soil Description: Silly medium
sand with fines trace
gravel; yellowish brown
10 YR 5/6

Soil Description: SAME as 1.

Soil Description: SAME as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0



Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42I
 SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 10-30-12/17/97 (0-6") (18-24")
 REMARKS: _____

Sample Time: 1030 (0-6") Sample ID: B42IAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Organic
with medium sand, some fines
Very dark grey 7.5 YR 3/1

② HS 0.0

Soil Description: same as 1.

③ HS 0.0

Soil Description: same as 1.

10 feet

④ HS 0.0

Soil Description: same as 1.

⑤ HS 0.0

Soil Description: same as 1.

⑥ HS 0.0

Soil Description: same as 1.

0 feet

⑦ HS 0.0

Soil Description: same as 1.

⑧ HS 0.0

Soil Description: same as 1.

⑨ HS 0.0

Soil Description: same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID:

42I

SAMPLER(S): Kaela Sotnik, Tim Dwyer

DATE: (0-6")

12/17/97

(18-24")

REMARKS:

Sample Time: (0-6")

11:00

(18-24")

Sample ID:

(0-6")

B42 IBA

(18-24")

VOC grab sample was collected from boring:

10 feet

① HS 0.0

Soil Description: silty medium
sand with fines, trace
gravel; yellowish
brown 10YR 5/6

② HS 0.0

Soil Description: SAME as 1.

③ HS 0.0

Soil Description: SAME as 1.

10 feet

④ HS 0.0

Soil Description: SAME as 1.

⑤ HS 0.0

Soil Description: SAME as 1.

⑥ HS 0.0

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

Soil Description: SAME as 1.

⑧ HS 0.0

Soil Description: SAME as 1.

⑨ HS 0.0

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42J
 SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 12/17/97 (0-6") _____ (18-24")
 REMARKS: _____

Sample Time: 1315 (0-6") Sample ID: B42JAA (0-6")
 _____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Organic, some
medium sand, trace fines.
Dark yellowish brown 10YR3/4

② HS 0.0

Soil Description: SAME as 1.

③ HS 0.0

Soil Description: SAME as 1.

10 feet

④ HS 0.0

Soil Description: SAME as 1.

⑤ HS 0.0

Soil Description: SAME as 1.

⑥ HS 0.0

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

Soil Description: SAME as 1.

⑧ HS 0.0

Soil Description: SAME as 1.

⑨ HS 0.0

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42J

SAMPLER(S): Kaela Sotnik, Tim Dwyer

DATE: _____ (0-6") 12/17/97 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1400 (18-24")

Sample ID: _____ (0-6")
B42 JBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0



Soil Description: silty medium
sand, some fines, trace
gravel; strong brown
7.5 yr 5/8

Soil Description: Same as 1.

Soil Description: Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0



Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42K
 SAMPLER(S): Tin Dwyer, Kaela Sotnik DATE: 12/17/97 (0-6") (18-24")
 REMARKS: Triple volume taken for MS/MSD.

Sample Time: 1430 (0-6") Sample ID: B42KAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____

<p><u>10</u> feet</p> <p>↑</p>	<p>① HS <u>0.0</u></p> <p>Soil Description: <u>Organic</u> <u>with medium sand and fines</u> <u>dark reddish brown</u> <u>2.5 YR 3/4</u></p>	<p>② HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>③ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<p><u>10</u> feet</p> <p>↑</p>	<p>④ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑤ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑥ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<p>0 feet</p>	<p>⑦ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑧ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑨ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>

0 feet → 10 feet → 10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42K

SAMPLER(S): Kaela Sotnik, Tim Dwyer

DATE: (0-6")

12/17/97 (18-24")

REMARKS: Triple Volume taken for MS/MSD

Sample Time: (0-6")

15:15 (18-24")

Sample ID: (0-6")

B42KBA

(18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0



Soil Description: silty medium
sand with fines; brown
7.5 yr 4/4

Soil Description: Same as 1.

Soil Description: Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.7

⑥ HS 0.0



Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

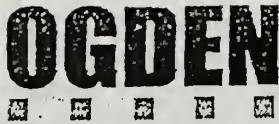
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: A
SAMPLER(S): J. Cipollini / J. Desmond DATE: 1-7-98 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: 0830 (0-6") Sample ID: BM3AAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

~10 feet

(1) HS 0.0 PPM

Soil Description: VERY DARK
BROWN SILT, TRACE
OF SAND 10Y 2/3

(2) IIS 0.0 PPM

Soil Description: YELLOWISH
BROWN SILT, SOME
SAND 10Y 5/6

(3) HS 0.0 PPM

Soil Description: SAME
AS 6

~10 feet

(4) HS 0.0 PPM

Soil Description: DARK
YELLOWISH SILT, TRACE
OF SAND 10Y 3/4

(5) HS 0.0 PPM

Soil Description: SAME
AS 6

(6) HS 0.0 PPM

Soil Description: YELLOWISH
BROWN SILT, SOME
SAND 10Y 5/6

0 feet

(7) HS 0.0 PPM

Soil Description: YELLOWISH
BROWN SAND, SOME
SILT 10Y 5/6

(8) IIS 0.0 PPM

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF
SAND 10Y 4/4

(9) IIS 0.0 PPM

Soil Description: SAME
AS 6.

NORTH



0 feet

~10 feet

~10 feet

IIS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: MP-3

PROJECT NAME: MNR PROJECT NUMBER: 313000103 GRID ID: M3A
SAMPLER(S): BG/KM DATE: 3-12-98 (0-6") (18-24")
REMARKS: _____

Sample Time: 1040 (0-6") Sample ID: BM3ABA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

② HS 0

③ HS 0

Soil Description: Strong brown
fine SAND, trace SILT
and gravel (7.5R 5/8)

Soil Description: Same as 1

Soil Description: Same as 1

10 feet

④ HS 0

⑤ HS 0

⑥ HS 0

Soil Description: Same as 1

Soil Description: Same as 1

Soil Description: Same as 1

0 feet

⑦ HS 0

⑧ HS 0

⑨ HS 0

Soil Description: Same as 1

Soil Description: Same as 1

Soil Description: Same as 1

10 feet

10 feet

10 feet

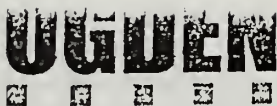
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: B

SAMPLER(S): J. C. Pollini / J. Desmoy DATE: 1-7-98 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: 0940 (0-6") (18-24")

Sample ID: B13BAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

~10 feet

(1) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF SAND
10Y 3/6

(2) HS 0.0 ppm

Soil Description: SAME AS
1

(3) HS 0.0 ppm

Soil Description: DARK YELLOWISH
BROWN SILT, TRACE OF
SAND 10Y 3/6

~10 feet

(4) HS 0.0 ppm

Soil Description: SAME
AS 3

(5) HS 0.0 ppm

Soil Description: VERY
DARK BROWN SILT
TRACE OF SAND
10Y 3/2

(6) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y 3/4

0 feet

(7) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT,
SOME SAND
10Y 4/6

(8) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT
TRACE OF SAND
10Y 3/4

(9) HS 0.0 ppm

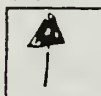
Soil Description: SAME AS
7 10Y 4/6

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: MP-3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: M3B

SAMPLER(S): KM/BG

DATE: _____

(0-6") 3-12-98 (18-24")

REMARKS: ① Moved location 1.5' South due to the presence of metal in auger hole.

Sample Time: _____ (0-6")

Sample ID: _____ (0-6")

1130 (18-24")

BM3BBA (18-24")

VOC grab sample was collected from boring: _____

60 feet

① H/S φ

② H/S φ

③ H/S φ

Soil Description: Strong brown (7.5 YR 5/8) fine SAND, trace silt and gravel

Soil Description: Same as /

Soil Description: Same as /

10 feet

④ H/S φ

⑤ H/S φ

⑥ H/S φ

Soil Description: Same as /

Soil Description: Strong brown (7.5 YR 5/8) fine SAND, some gravel, trace silt

Soil Description: Same as /

0 feet

⑦ H/S φ

⑧ H/S φ

⑨ H/S φ

Soil Description: Same as /

Soil Description: Same as /

Soil Description: Same as /

0 feet

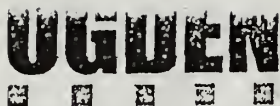
10 feet

10 feet

NORTH



H/S=Headspace PPM (0-6")



Hand Auger Log

AREA: MP 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: C

SAMPLER(S): J. Cipollini / J. Desmond

DATE: 1-7-98

(0-6")

(18-24")

REMARKS: Find BACKGROUND 0.0 ppm

Sample Time: 1030

(0-6")

Sample ID: BMBEAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: _____

~10 feet

① HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT,
SOME SAND. 10Y 3/4

② HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT,
TRACE OF SAND
10Y 4/6

③ HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT,
SOME SAND 10Y 4/4

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
21

⑤ HS 0.0 ppm

Soil Description: SAME AS
3

⑥ HS 0.0 ppm

Soil Description: SAME AS
3

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1

⑧ HS 0.0 ppm

Soil Description: SAME AS
1

⑨ HS 0.0 ppm

Soil Description: SAME
AS 3

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: MP-3

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: C

SAMPLER(S): BG/KM DATE: _____ (0-6") 3-11-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1630 (18-24")

Sample ID: _____ (0-6")
BM3CBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description yellowish
brown (10 YR 5/8) fine
SAND, some silt and clay

② HS 0

Soil Description yellowish
brown (10 YR 5/6) fine
Sand, some silt
and Gravel, trace clay

③ HS 0

Soil Description yellowish
brown (10 YR 5/8) fine SAND
Some silt, trace
clay and Gravel

10 feet

④ HS 0

Soil Description Same
as 3

⑤ HS 0

Soil Description Same
as 2

⑥ HS 0

Soil Description yellowish
brown (10 YR 5/8) fine
SAND some silt and
as SAND, trace clay

0 feet

⑦ HS 0

Soil Description Same
as 3

⑧ HS 0

Soil Description Same
as 2

⑨ HS 0

Soil Description Same
as 6

0 feet

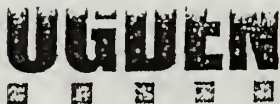
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MD3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: D
SAMPLER(S): J. Cipollini / J. Desmond DATE: 1-7-98 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0ppm.

Sample Time: 1116 (0-6") Sample ID: BM3DAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

~10 feet

(1) HS 0.0ppm

(2) HS 0.0ppm

(3) HS 0.0ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF SAND.
10Y 4/4

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y 3/6

Soil Description: SAME
AS 1.

~10 feet

(4) HS 0.0ppm

(5) HS 0.0ppm

(6) HS 0.0ppm

Soil Description: SAME
AS 1

Soil Description: SAME
AS 1

Soil Description: SAME
AS 1.

0 feet

(7) HS 0.0ppm

(8) HS 0.0ppm

(9) HS 0.0ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1

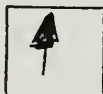
Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-3

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: M3D

SAMPLER(S): WG/KM DATE: _____ (0-6") 3-12-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1330 (18-24")

Sample ID: _____ (0-6")
BM3 DBA (18-24")

VOC grab sample was collected from boring: 7

10 feet

① HS 0

Soil Description Light
Yellowish brown (10YR
6/4) fine SAND, trace
Silt and Gravel

② HS 0

Soil Description Yellowish
brown (10YR 5/6)
fine SAND, trace
Silt and Gravel

③ HS 0

Soil Description Same
as 1

10 feet

④ HS 0

Soil Description Same
as 1

⑤ HS 0

Soil Description Same
as 2

⑥ HS 0

Soil Description Same
as 2

0 feet

⑦ HS 17.3

Soil Description Dusky
Red (10YR 3/3) fine
SAND with Organics

⑧ HS 0

Soil Description Dark
Yellowish brown (10YR
4/6) fine SAND, some
Silt, Gravel, cobbles

⑨ HS 0

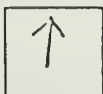
Soil Description Dark
Yellowish brown (10YR
4/6) fine SAND, some
Silt and Gravel

0 feet

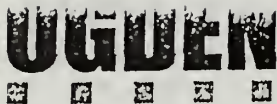
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: E

SAMPLER(S): J. Cipollini / J. Desmond DATE: 1-8-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1210 (0-6")
(18-24")

Sample ID: BM3EAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

~10 feet

(1) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y 3/4

(2) HS 0.0 ppm

Soil Description: SAME
AS 1.

(3) HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

(4) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y 4/4

(5) HS 0.0 ppm

Soil Description: SAME
AS 4.

(6) HS 0.0 ppm

Soil Description: SAME
AS 4.

0 feet

(7) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND. 10Y 5/8

(8) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
SAND. 10Y 5/8

(9) HS 0.0 ppm

Soil Description: BLACK
SILT, TRACE OF
SAND. 10Y 2/1

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-3

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: M3E

SAMPLER(S): BC/KM DATE: _____ (0-6") 3-12-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1450 (18-24") BM3EBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description Dark
Yellowish brown (10YR
3/6) fine SAND, some
organics

② HS 0

Soil Description Light
Yellowish brown (10YR
6/4) fine SAND, some
Gravel

③ HS 0

Soil Description Same
as 2

10 feet

④ HS 0

Soil Description Same
as 2

⑤ HS 0

Soil Description Same
as 2

⑥ HS 0

Soil Description Same
as 2

0 feet

⑦ HS —

Soil Description No
Sample

⑧ HS 0

Soil Description Same
as 2.

⑨ HS —

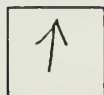
Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-5A

SAMPLER(S): J. DWYER, J. Cipollini DATE: 10-30-97 (0-6") (18-24")

REMARKS: FID BACK GROUND 0.0 ppm.

Sample Time: 0752 (0-6") Sample ID: BM5AAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HSC 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME SILT. 10Y 5/6

② IIS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME SILT. 10Y 5/6

③ IIS 0.0 ppm

Soil Description: SAME AS
4.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
4.

⑤ IIS 0.0 ppm

Soil Description: SAME AS
4.

⑥ IIS 0.0 ppm

Soil Description: SAME AS
4.

0 feet

⑦ IIS 0.0 ppm

Soil Description: SAME AS
1

⑧ IIS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
FINE SAND, SOME SILT.
10Y 4/4

⑨ IIS 0.0 ppm

Soil Description: SAME
AS 8.

0 feet

~10 feet

~10 feet

NORTH



IIS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: A

SAMPLER(S): F. Esquivel

DATE: 2-2-98

(0-6")

(18-24")

REMARKS: J. Ferrati K. Daddario

Sample Time: 1030

(0-6")

Sample ID: BM5 ABA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: -

10 feet

① HS 0.0

Soil Description: 2.5Y4/4
Olive brown fine
Sands

② HS 0.0

Soil Description: 2.5Y4/4
Light Olive brown
fine Sands

③ HS 0.0

Soil Description: 2.5Y4/4
olive brown fine
Sands

10 feet

④ HS 0.0

Soil Description: 2.5Y4/4
Olive brown fine
Sands

⑤ HS 0.0

Soil Description: 2.5Y4/4
Olive brown fine
Sands

⑥ HS 0.0

Soil Description: 2.5Y4/4
Olive brown
fine Sands

0 feet

⑦ HS 0.0

Soil Description: 2.5Y4/4
Olive brown
fine Sands

⑧ HS 0.0

Soil Description: 2.5Y4/4
Olive brown fine
Sands

⑨ HS 0.0

Soil Description: 2.5Y4/4
Olive brown
fine Sands

0 feet

10 feet

10

feet

NORTH



HS: Headspace PPM (0-6")

Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-5B

SAMPLER(S): J. Cipollini, T. Dwyer DATE: 10-30-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0845 (0-6") (18-24")

Sample ID: B M5 BAA (0-6") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: DARK YELLOWISH

Soil Description: SAME

Soil Description: SAME

BROWN, FINE SAND,

AS 1.

AS 1.

SOME SILT.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME

Soil Description: SAME

Soil Description: SAME

AS 1.

AS 1.

AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME

Soil Description: SAME

Soil Description: SAME

AS 1.

AS 1.

AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: MP5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: B + QpSAMPLER(S): F. Espo. h

DATE: _____

(0-6")

2-2-98 (18-24")REMARKS: J. Escobar, K. Daddario Corrected Duplicate

Sample Time: _____

(0-6")

Sample ID: _____

(0-6")

1050

(18-24")

BMSBBA

(18-24")

VOC grab sample was collected from boring _____

10 feet① HS 0.0Soil Description: 10.9R 4/4Dark Yellowish
Brown fine Sands② HS 0.0Soil Description: 7.5R 4/6Strong Brown
Fine Sands③ HS 0.0Soil Description: 7.5R 4/6Strong Brown
Fine Sands10 feet④ HS 0.0Soil Description: 10.9R 4/4Dark Yellowish
Brown fine Sands⑤ HS 0.0Soil Description: 7.5R 4/6Strong Brown
Fine Sands⑥ HS 0.0Soil Description: 10.9R 4/4Dark Yellowish
Brown fine Sands

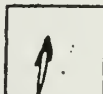
0 feet

⑦ HS 10.9R 4/4Soil Description: 0.0Dark Yellowish
Brown fine Sands⑧ HS 0.0Soil Description: 10.9R 4/4Dark Yellowish
Brown fine Sands⑨ HS 0.0Soil Description: 7.5R 4/6Strong Brown
Fine Sands

0 feet

10 feet10 feet

NORTH



HS: Headspace PPM (0-6")

Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-5 C

SAMPLER(S): J. Cipollini, T. DWYER

DATE: 10-30-97

(0-6")

(18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 0957

(0-6")

Sample ID: BM5CAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
FINE SAND. 10Y 5/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF SAND.
10Y 4/4

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME AS
1.

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 3.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: C

SAMPLER(S): F. Esquivel

DATE:

(0-6")

2-2-98

(18-24")

REMARKS: J. Ferrati K. Daddario

Sample Time:

(0-6")

Sample ID:

(0-6")

1145

(18-24")

BM5CBA

(18-24")

VOC grab sample was collected from boring

10 feet

① HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine
Sands w/ slight Organics

② HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine Sands
w/ org Inclusions

③ HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine Sands
w/ org Inclusions

10 feet

④ HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine
Sands w/ org Inclusions

⑤ HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine
Sands w/ org Inclusions

⑥ HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine
Sands w/ org Inclusions

0 feet

⑦ HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine Sands
w/ org Inclusions

⑧ HS 0.0

Soil Description: 2.5 Y 4/4
olive brown fine
Sands w/ org Inclusions

⑨ HS 0.0

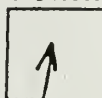
Soil Description: 2.5 Y 4/4
olive brown fine Sands
w/ org Inclusions

0 feet

10 feet

10 feet

NORTH



HS Headspace PPM (0-6")

Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-5D

SAMPLER(S): T. DWYER, J. CIPOLLINI

DATE: 10-30-97

(0-6")

(18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1036

(0-6")

Sample ID: BMPDAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: VERY DARK
GRAYISH BROWN FINE
SAND, SOME SILT.
10Y 3/2

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

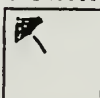
Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: D

SAMPLER(S): FE/JF/KD DATE: 2-2-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1215 (0-6") (18-24") Sample ID: BMSDBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0.0

Soil Description Dark
Yellowish brown
(104R 4/4) Fine SAND

② HS 0.0

Soil Description Same
as /

③ HS 0.0

Soil Description Same
as /

10 feet

④ HS 0.0

Soil Description Same
as /

⑤ HS 0.0

Soil Description Same
as /

⑥ HS 0.0

Soil Description Same
as /

0 feet

⑦ HS 0.0

Soil Description Same
as /

⑧ HS 0.0

Soil Description Same
as /

⑨ HS 0.0

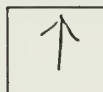
Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-5E

SAMPLER(S): J. DWYER, J. CIPOLLINI

DATE: 10-30-97

(0-6")

(18-24")

REMARKS: FID BACK GROUND 0.0 ppm.

Sample Time: 1345

(0-6")

Sample ID: BM5EAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: DARK
GRAYISH BROWN SILT,
SOME FINE SAND.
10Y 4/4

② HS 0.0 ppm

Soil Description: SAME AS
1.

③ HS 0.0 ppm

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME AS
1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: E

SAMPLER(S): F. Esposito

DATE: 2-2-98

(0-6")

(18-24")

REMARKS: J. Ferrari K. Daddario

Sample Time: 1925

(0-6")

(18-24")

Sample ID: BM5 EBA

(0-6")

(18-24")

VOC grab sample was collected from boring —

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description 10 PR 1/6

Soil Description 10 PR 1/6

Soil Description 10 PR 1/6

Dark Yellowish Brown
Fine Sands

Dark Yellowish Brown
Fine Sands

Dark Yellowish Brown
Fine Sands

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description 10 PR 1/6

Soil Description 10 PR 1/6

Soil Description 10 PR 1/6

Dark Yellowish Brown
Fine Sands

Dark Yellowish Brown
Fine Sands

Dark Yellowish Brown
Fine Sands

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description 10 PR 1/6

Soil Description 10 PR 1/6

Soil Description 10 PR 1/6

Dark Yellowish Brown
Fine Sands

Dark Yellowish Brown
Fine Sands

Dark Yellowish Brown
Fine Sands

0 feet

10

feet

10

feet

NORTH



US Headpress PPM (0-6")

Hand Auger Log

AREA: MP6

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP6A

SAMPLER(S): T. DWYER, 2. CIPRIANI DATE: 10-30-97 (0-6") (18-24")

REMARKS: FID BACK GROUND 0.0 ppm.

Sample Time: 1432 (0-6") (18-24")

Sample ID: BM6AAA (0-6") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN Silt, some
FINE SAND 10Y 5/6

② HS 0.0 ppm

Soil Description: DARK
GRAYISH BROWN
Silt, some SAND
10Y 3/4

③ HS 0.0 ppm

Soil Description: SAME AS
2.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑤ HS 0.0 ppm

Soil Description: SAME AS
2.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑧ HS 0.0

Soil Description: SAME AS
2.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID

A

SAMPLER(S): CD, FE, + JF

DATE:

(0-6") 2-2-98

(18-24")

REMARKS:

Sample Time:

(0-6")

Sample ID:

(0-6")

1450

(18-24")

BM 6 ABA

(18-24")

VOC grab sample was collected from boring

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description 10YR 4/4

Soil Description 10YR 4/4

Soil Description 10YR 4/4

DK. Yellowish Br.

DK. Yellowish Br.

DK. Yellowish Br.

FINE SANDS

FINE SANDS

FINE SANDS

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description 10YR 4/4

Soil Description 10YR 4/4

Soil Description 10YR 4/4

DK. Yellowish Br.

DK. Yellowish Br.

DK. Yellowish Br.

FINE SANDS

FINE SANDS

FINE SANDS

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description 10YR 4/4

Soil Description 10YR 4/4

Soil Description 10YR 4/4

DK. Yellowish Br.

DK. Yellowish Br.

DK. Yellowish Br.

FINE SANDS

FINE SANDS

FINE SANDS

0 feet

10 feet

10

10

NORTH



US Headspace PPM (0.6")

Hand Auger Log

AREA: MP6

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP6B

SAMPLER(S): T. DWYER, J. Cipollini

DATE: 10-30-97

(0-6")

(18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1534 (0-6")
(18-24")

Sample ID: BMG BAA (0-6")
(18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: DARK BROWN
SILT, SOME FINE
SAND. 10Y3/3

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: B
 SAMPLER(S): KD, FE, + JF DATE: (0-6") 2-2-98 (18-24")
 REMARKS: _____

Sample Time: 1510 (0-6") Sample ID: BM6BBA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring -

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 10YR4/4 Soil Description: 10YR4/4 Soil Description: 10YR4/4
DK. Yellowish Br. DK. Yellowish Br. DK. Yellowish Br.
FINE SAND FINE SAND FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 10YR4/4 Soil Description: 10YR4/4 Soil Description: 10YR4/4
DK. Yellowish Br. DK. Yellowish Br. DK. Yellowish Br.
FINE SAND FINE SAND FINE SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 10YR4/4 Soil Description: 10YR4/4 Soil Description: 10YR4/4
DK. Yellowish Br. DK. Yellowish Br. DK. Yellowish Br.
FINE SAND FINE SAND FINE SAND

0 feet

feet

feet

NORTH



10" Headpace PPM (0.6")



Hand Auger Log

AREA: MP-6

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-6C
SAMPLER(S): J. DWYER, J. Cipolimi DATE: 10-31-97 (0-6") (18-24")
REMARKS: FIND BACK GROUND 0.0 ppm. DUPLICATE SAMPLE
TAKEN.

Sample Time: 0801 (0-6") Sample ID: BMBCAA/BMBCAD (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10' feet

(1) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN Silt, TRACE
FINE SAND. 10% $\frac{5}{6}$

(2) HS 0.0 ppm

Soil Description: SAME
AS 1.

(3) HS 0.0 ppm

Soil Description: SAME
AS 1.

~10' feet

(4) HS 0.0 ppm

Soil Description: SAME
AS 1.

(5) HS 5.8 ppm

Soil Description: SAME
AS 1.

(6) HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

(7) HS 0.0 ppm

Soil Description: SAME
AS 1.

(8) HS 0.0 ppm

Soil Description: SAME
AS 1.

(9) HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10' feet

~10' feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: C
 SAMPLER(S): ED, FE, + JF DATE: (0-6") 2-2-98 (18-24")
 REMARKS: _____

Sample Time: 1540 (0-6") Sample ID: BM6CBA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring —

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0



Soil Description LO/R4/4

Soil Description LO/R4/4

Soil Description LO/R4/4

DK. Yellowish Br.
FINE SAND

DK. Yellowish Br.
FINE SAND

DK. Yellowish Br.
FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0



Soil Description LO/R4/3

Soil Description LO/R4/4

Soil Description LO/R4/4

Brown
FINE SAND

DK. Yellowish Br.
FINE SAND

DK. Yellowish Br.
FINE SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description LO/R4/4

Soil Description LO/R4/4

Soil Description LO/R4/4

DK. Yellowish Br.
FINE SAND

DK. Yellowish Br.
FINE SAND

DK. Yellowish Br.
FINE SAND

0 feet

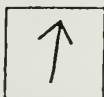
10

feet

10

feet

NORTH



HS Headspace PPM (0-6")




Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-8A
 SAMPLER(S): J. Cipollini, T. Dwyer DATE: 10-31-97 (0-6") (18-24")
 REMARKS: FIN BACK GROUND 0.0 ppm.

Sample Time: 0907 (0-6") Sample ID: BM8AAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>~10</u> feet 	(1) HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN</u> <u>SILT, SOME SAND</u> <u>10 1/4"</u>	(2) HS <u>0.0 ppm</u> Soil Description: <u>DARK YELLOWISH</u> <u>BROWN SILT, SOME</u> <u>SAND. 10 1/4"</u>	(3) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>
	(4) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	(5) HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	(6) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>
<u>~10</u> feet 	(7) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>	(8) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>	(9) HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 2.</u>
	0 feet 		



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP8

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: A

SAMPLER(S): KD/FE/JF DATE: _____ (0-6") 2-3-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1000 (18-24")

Sample ID: _____ (0-6")
BM8 ABA (18-24")

VOC grab sample was collected from boring: 5

10 feet



① HS 0.0
Soil Description Dark
yellowish brown
(10YR 4/4) fine SAND

② HS 0.0
Soil Description Same
as 1

③ HS 0.0
Soil Description Same
as 1

10 feet



④ HS 0.0
Soil Description Dark
yellowish brown
(10YR 4/4) fine SAND
with Black fine SAND

⑤ HS 0.0
Soil Description Same
as 4

⑥ HS 0.0
Soil Description Same
as 1

0 feet

⑦ HS 0.0
Soil Description Same
as 4

⑧ HS 0.0
Soil Description Same
as 1

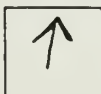
⑨ HS 0.0
Soil Description Same
as 4

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-8B

SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-31-97 (0-6") (18-24")

REMARKS: FID BACK GROUND 0.0 ppm.

Sample Time: 1003 (0-6") (18-24")

Sample ID: BM8BAA (0-6") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

(1) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT,
TRACE FINE SAND.
10 1/4 4/6

(2) HS 0.0 ppm

Soil Description: SAME AS
1.

(3) HS 0.0 ppm

Soil Description: VERY DARK
GRAYISH BROWN SILT,
SOME FINE SAND
10 1/2 3/2

~10 feet

(4) HS 0.0 ppm

Soil Description: SAME AS
1.

(5) HS 0.0 ppm

Soil Description: SAME AS
1.

(6) HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

(7) HS 0.0 ppm

Soil Description: SAME AS
4.

(8) HS 0.0 ppm

Soil Description: SAME
AS 1.

(9) HS 0.0 ppm

Soil Description: SAME AS
3.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: B

SAMPLER(S): KD/FE/JE DATE: 2-3-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1030 (0-6") (18-24") Sample ID: BM8 BBA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Yellowish
brown (10YR 5/4)
fine SAND



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

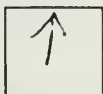
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-8C

SAMPLER(S): J. Cipollini, T. Dwyer DATE: 10-31-97 (0-6") (18-24")

REMARKS: FD BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN.

Sample Time: 1045 (0-6") (18-24")

Sample ID: BMSCAA/BMSCAD (0-6") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

(1) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND
10Y 5/4

(2) HS 0.0 ppm

Soil Description: DARK
GRAYISH BROWN
SILT, TRACE OF FINE
SAND. 10Y 4/2

(3) HS 0.0 ppm

Soil Description: SAME AS
2.

~10 feet

(4) HS 0.0 ppm

Soil Description: SAME AS
1.

(5) HS 0.0 ppm

Soil Description: SAME AS
1.

(6) HS 0.0 ppm

Soil Description: SAME AS
2.

0 feet

(7) HS 0.0 ppm

Soil Description: SAME AS
2.

(8) HS 0.0 ppm

Soil Description: SAME
AS 2.

(9) HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP8

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: C
SAMPLER(S): KD/FE/JF DATE: _____ (0-6") 2-3-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1100 (18-24") BM8CBA (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

Soil Description Dark
Yellowish brown
(10 y 4/4) fine SAND

② HS 0.0

Soil Description Same
as 1

③ HS 0.0

Soil Description Same
as 1

10 feet

④ HS 0.0

Soil Description Same
as 1

⑤ HS 0.0

Soil Description Same
as 1

⑥ HS 0.0

Soil Description Same
as 1

0 feet

⑦ HS 0.0

Soil Description Same
as 1

⑧ HS 0.0

Soil Description Same
as 1

⑨ HS 0.0

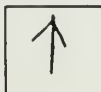
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 6A-7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: A

SAMPLER(S): KD, FE, + JF DATE: 1-27-98 (0-6") (18-24")

REMARKS:

Sample Time: 1115 (0-6") (18-24")

Sample ID: BGMAAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: LOYR3/4

Soil Description: LOYR3/4

Soil Description: LOYR3/4

Very Dr. Yellowish Br. Dr. Yellowish Br. Dr. Yellowish Br.
FINE-MGD SAND FINE-MGD SAND FINE-MGD SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: LOYR3/4

Soil Description: LOYR3/4

Soil Description: LOYR3/4

Dr. Yellowish Br. Dr. Yellowish Br. Dr. Yellowish Br.
FINE-MGD SAND FINE-MGD SAND FINE-MGD SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: LOYR3/4

Soil Description: LOYR2/2

Soil Description: LOYR3/4

Dr. Yellowish Br. Very Dark Br. Dr. Yellowish Br.
FINE-MGD SAND SILTY FINE SAND FINE-MGD SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GMA

SAMPLER(S): RP/SD

DATE: _____ (0-6") 3.24.98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0845 (18-24")

Sample ID: _____ (0-6")
BGMA BA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR 4/6
dark yellowish brown
organic soil & fine sand

② HS 0

Soil Description: same as 1

③ HS 0

Soil Description: 10YR 4/4
dark yellowish brown
organic soil & fine sand

10 feet

④ HS 0

Soil Description: 10YR 5/6
yellowish brown organic
soil & fine sand

⑤ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
organic soil & fine sand

⑥ HS 0

Soil Description: same as 5

0 feet

⑦ HS 0

Soil Description: same as 5

⑧ HS 0

Soil Description: same as 5

⑨ HS 0

Soil Description: same as 5

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: NMR

PROJECT NUMBER: 313000103

GRID ID: B

SAMPLER(S): E. Escalante

DATE: 1-27-98

(0-6")

(18-24")

REMARKS: J. Ferrati K. Dedotto

Sample Time: 1325

(0-6")

Sample ID: B6M BAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 10YR4/3

Soil Description: 10YR4/4

Soil Description: 10YR4/4

Brown Med to fine Sands

DK. Yellowish Br. MED-FINE SANDS

DK. Yellowish Br. MED-FINE SANDS

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 10YR4/4

Soil Description: 10YR4/4

Soil Description: 10YR4/4

DK. Yellowish Br. MED-FINE SAND

DK. Yellowish Br. MED-FINE SAND

DK. Yellowish Br. MED-FINE SANDS

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 10YR3/3

Soil Description: 10YR3/3

Soil Description: 10YR4/4

Dark Brown

DARK BROWN

DK. Yellowish Br.

MED-FINE SAND

MED-FINE SAND

MED-FINE SAND

0 feet

10

feet

10

feet

NORTH



HS = Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 6MB

SAMPLER(S): RP/50

DATE: _____ (0-6") 3-24-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
7:50 (18-24")

Sample ID: _____ (0-6")
B6MBSA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR4/4
d/yellowish brown
fine SILT & SAND,
trace m. gravel

② HS 0

Soil Description: 10YR5/4
yellowish brown dense
SILT & f. SAND

③ HS 0

Soil Description: 10YR4/4
d/yellowish brown
fine SAND, some silt.

10 feet

④ HS 0

Soil Description: 10YR5/4
Yellowish brown mod.
dense SILT, and f.
Sand.

⑤ HS 0

Soil Description: 10YR5/4
Yellowish brown SILT
& f. SAND, trace
m to f gravel.

⑥ HS 0

Soil Description: _____
Same as 5.

0 feet

⑦ HS 0

Soil Description: 10YR4/6
d/yellowish brown
fine SAND, some silt,
trace f. gravel.

⑧ HS 0

Soil Description: _____
Same as 7.

⑨ HS 0

Soil Description: 10YR4/6
d/yellowish brown
f. SAND & SILT,
trace f. gravel.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: GP 7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: C

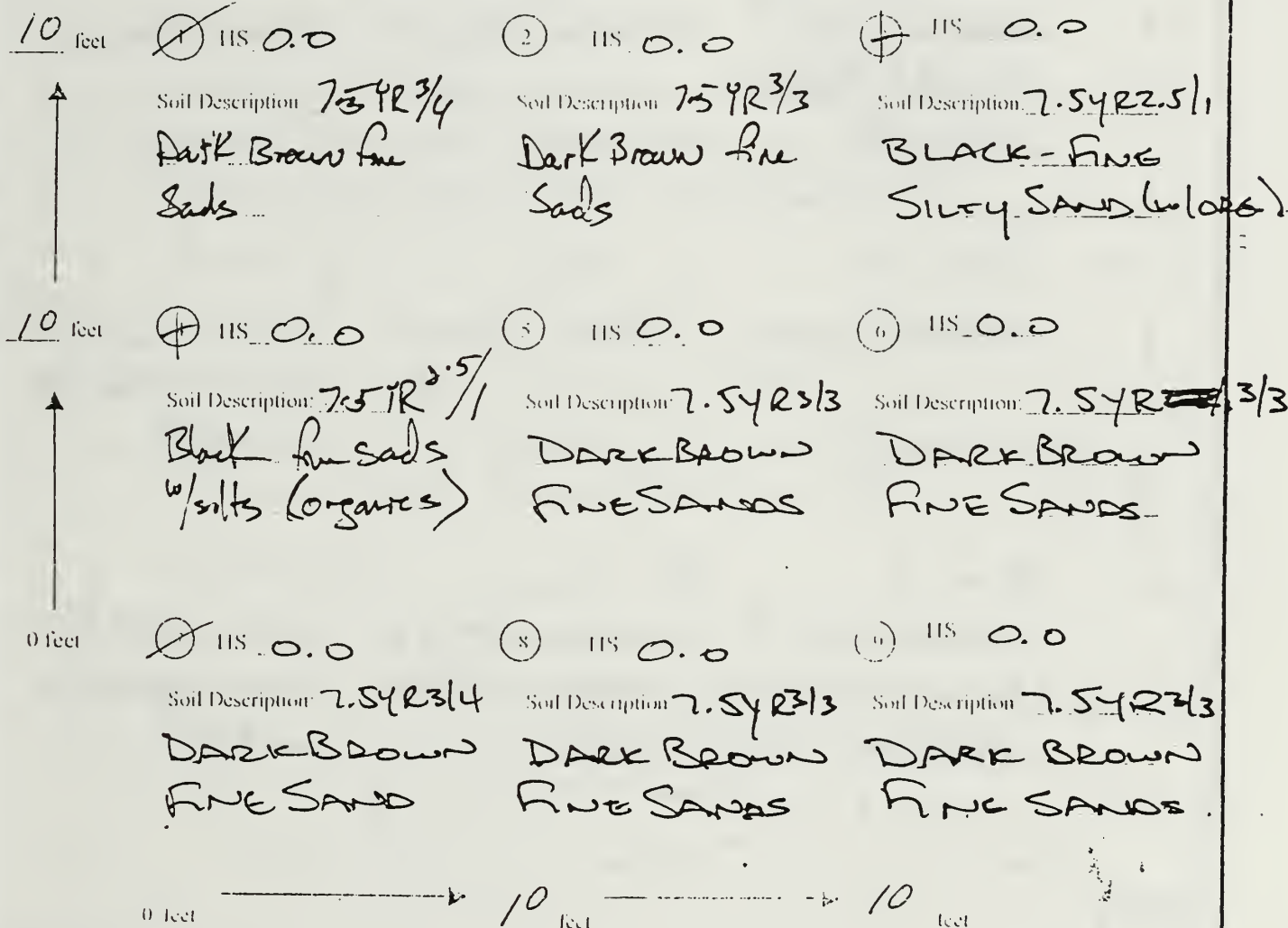
SAMPLER(S): F. Esquivel DATE: 1-7-98 (0-6") (18-24")

REMARKS: J. Ferant K. Daclario

Sample Time: 1345 (0-6") (18-24")

Sample ID: BGMCAA (0-6") (18-24")

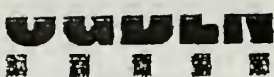
VOC grab sample was collected from boring: 5



NORTH



HIS = Headspace PPM (0-6")



Hand Auger Log

AREA: LP7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: LMC

SAMPLER(S): JD

DATE: _____

(0-6")

03/23/94

(18-24")

REMARKS: _____

Sample Time: _____ (0-6")

1510

(18-24")

Sample ID: _____

(0-6")

BGMCD4

(18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR 6/6
brownish yellow fine
sand + silt

② HS 0

Soil Description: Same as 1

③ HS 0

Soil Description: Same as 1

10 feet

④ HS 0

Soil Description: Same as 1

⑤ HS 0

Soil Description: Same as 1

⑥ HS 0

Soil Description: 10YR 6/6
brownish yellow fine
sand + silt

0 feet

⑦ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
organic soil + fine sand

⑧ HS 0

Soil Description: 10YR 6/6
brownish yellow fine sand
+ silt

⑨ HS 0

Soil Description: 10YR 6/6
brownish yellow fine
sand + silt

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: GP 07

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 0

SAMPLER(S): KD, FG + IF DATE: 1-27-98 (0-6") (18-24")

REMARKS:

Sample Time: 1050 (0-6") (18-24")

Sample ID: BGMDAA (0-6") (18-24")

VOC grab sample was collected from boring 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description 7.5YR3/3

Soil Description 7.5YR3/3

Soil Description 10YR4/3

DARK BROWN DARK BROWN BROWN
FINE-MED. SAND FINE-MED. SAND MEDIUM SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description 10YR4/3

Soil Description 7.5YR3/3

Soil Description 7.5YR3/3

BROWN DARK BROWN DARK BROWN
MEDIUM SAND FINE-MED. SAND FINE-MED. SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description 10YR4/3

Soil Description 7.5YR3/3

Soil Description 10YR4/3

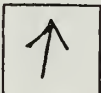
BROWN DARK BROWN BROWN
MEDIUM SAND FINE-MED. SAND MEDIUM SAND

0 feet

10 feet

10 feet

NORTH



HS Headspace PPM (0-6")



Hand Auger Log

AREA: OP5, 6, 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: E

SAMPLER(S): KD, FE, JF DATE: _____ (0-6") 2-4-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1350 (18-24")

Sample ID: _____ (0-6")
BOPGBA (18-24")

VOC grab sample was collected from boring: —

10 feet



HS 0.0

Soil Description Yellowish
brown (1042 5/4)
Fine SAND



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: OP

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: OPE

SAMPLER(S): T. DWIER, T. CIVILINI DATE: 10-27-97 (0-6") (18-24")

REMARKS: FIELD BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN.

Sample Time: 1610 (0-6") Sample ID: BOPEAA/BOPEAD (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND
TRACE SILT
10% S₈

② HS 0.0 ppm

Soil Description: SAME AS
1.

③ HS 0.0 ppm

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6, 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: D

SAMPLER(S): KD, FE, JF DATE: _____ (0-6") 2-4-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1310 (18-24")

Sample ID: _____ (0-6")
BOPDBA (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

Soil Description Very
Dark Brown
(10YR 2/3) fine
SAND and Organics

② HS 0.0

Soil Description Brown
(10YR 4/3) fine
SAND

③ HS 0.0

Soil Description Dark
Yellowish brown (10YR
4/6) fine SAND

10 feet

④ HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/4) fine SAND

⑤ HS 0.0

Soil Description Same
as 3

⑥ HS 0.0

Soil Description Same
as 3

0 feet

⑦ HS 0.0

Soil Description Same
as 3

⑧ HS 0.0

Soil Description Same
as 4

⑨ HS 0.0

Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: OPD

SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-29-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1525 (0-6") Sample ID: BOPDAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #9

~10 feet

① HS 0.0 ppm

② IIS 4.5 ppm

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND, SOME
SILT 10Y 5/4

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ IIS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

⑧ IIS 3.4 ppm

⑨ IIS 5.0 ppm

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

~10 feet

~10 feet

NORTH



IIS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6, 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: C

SAMPLER(S): KD, FE, JF DATE: _____ (0-6") 2-4-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1055 (18-24")

Sample ID: _____ (0-6")
BOPCBA (18-24")

VOC grab sample was collected from boring: —

10 feet



HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/4) Fine SAND



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

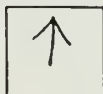
Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: OP

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: OPC
 SAMPLER(S): T. DWYER, J. Cipilini DATE: 10-29-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND

Sample Time: 1447 (0-6") Sample ID: BOPCAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND, SOME
SILT. 10% S

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6, + 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: B
SAMPLER(S): KD, FE, JF DATE: _____ (0-6") 2-4-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0945 (18-24") BOPBBA (18-24")

VOC grab sample was collected from boring: ✓

10 feet

① HS 0.0

Soil Description Dark
Yellowish Brown
(10YR 4/6) fine SAND

② HS 0.0

Soil Description Same
as 1

③ HS 0.0

Soil Description Same
as 1

10 feet

④ HS 0.0

Soil Description Same
as 1

⑤ HS 0.0

Soil Description Same
as 1

⑥ HS 0.0

Soil Description Same
as 1

0 feet

⑦ HS 0.0

Soil Description Same
as 1

⑧ HS 0.0

Soil Description Same
as 1

⑨ HS 0.0

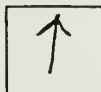
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH






HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: OPB
 SAMPLER(S): T. DWYER, J. Cipolino DATE: 10-29-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1304 (0-6") Sample ID: BOPBAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: IS

<u>~10</u> feet 	① HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN</u> <u>SAND, SOME SILT.</u> <u>10Y 4/4</u>	② HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
	<u>~10</u> feet 	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
0 feet 	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>YELLOWISH</u> <u>BROWN SAND, SOME</u> <u>SILT 10Y 5/6</u>

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6 + 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: A

SAMPLER(S): KD/FE/JF DATE: 2-4-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1020 (0-6") (18-24") Sample ID: BOPABA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Brown
(10YR 4/3) fine
SAND



HS 0.0

Soil Description Yellowish
brown (10YR 5/4)
fine SAND



HS 0.0

Soil Description Same
as 2

10 feet



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: OPA
 SAMPLER(S): J. DWYER, J. CIPOLLINI DATE: 10-24-97 (0-6") (18-24")
 REMARKS: FID BACK GROUND 0.0 ppm

Sample Time: 1130 (0-6") Sample ID: BOPAAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #7

<u>~16</u> feet 	① HS <u>0.0 ppm</u> Soil Description: <u>BLACK</u> <u>SILT, SOME FINE</u> <u>SAND, TRACE OF</u> <u>COARSE SAND</u> <u>10Y 2/1</u>	② HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>4.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>4.</u>
	<u>~10</u> feet 	④ HS <u>0.0 ppm</u> Soil Description: <u>YELLOWISH</u> <u>POSSIBLY GRADED</u> <u>BROWN SAND, SOME SMALL</u> <u>STONES</u> <u>10Y 2/1</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>4.</u>
0 feet	⑦ HS <u>2.9 ppm</u> Soil Description: <u>SAME</u> <u>AS 4.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 4.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 4.</u>

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 13J

SAMPLER(S): FE/JF/KD DATE: 1-21-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1220 (0-6") Sample ID: B13JAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.6

Soil Description Very
dark brown (10YR 2/2)
Very fine SAND, some
Silt



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

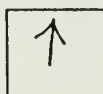
Soil Description Same
as /

0 feet

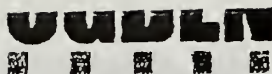
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: Demo 3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 13J

SAMPLER(S): RP/JD

DATE: _____ (0-6") 3.25.98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
_____ (18-24")

Sample ID: _____ (0-6")
B13J34 (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR5/4
brownish yellow
fine SAND, some silt

② HS 0

Soil Description: _____
Same as 1,

③ HS 0

Soil Description: 10YR6/3
pale brown fine
SAND & SILT

10 feet

④ HS 0

Soil Description: 10YR5/4
brownish yellow
fine SAND & SILT

⑤ HS 0

Soil Description: _____
Same as 3.

⑥ HS 0

Soil Description: _____
Same as 3.

0 feet

⑦ HS 0

Soil Description: 10YR4/4
d/yellowish brown
fine SAND & SILT

⑧ HS 0

Soil Description: 10YR6/6
brownish yellow
fine SAND, some
SILT.

⑨ HS 0

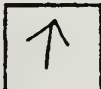
Soil Description: 10YR5/6
Yellowish brown
fine SAND, some
SILT.

0 feet

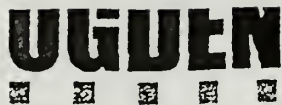
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14A

SAMPLER(S): TD, JD

DATE: 9/16/97 (0-6")

(18-24")

REMARKS:

Sample Time: 835 VOC, 825 All (0-6")
(18-24")

Sample ID: B14AAA (0-6")
(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Dark brown
organic, trace medium
sand

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

Soil Description: _____
Same as 1.

0 feet

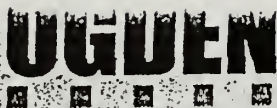
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14A

SAMPLER(S): J. Cipollini, F. Esquivel DATE: _____ (0-6") 11-11-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: _____ (0-6")
0751 (18-24")

Sample ID: _____ (0-6")
B14ABA (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, + TRACE
OF SAND, 10 $\frac{5}{8}$

② HS 0.0 ppm

Soil Description: SAME
AS 1,

③ HS _____

Soil Description: UNABLE
TO COLLECT SAMPLE

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1,

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1,

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1,

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1,

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1,

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1,

0 feet

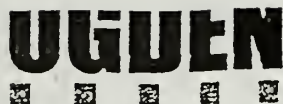
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14B

SAMPLER(S): TD, JD

DATE: 9/16/97

(0-6")

(18-24")

REMARKS: _____

Sample Time: 920 VOCs, 910 All (0-6")

Sample ID: B14BAA and B14BAD (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0

Soil Description: Dark brown
organic, trace medium
sand.

② HS 0.0

Soil Description: _____
Same as 1.

③ HS 0.0

Soil Description: _____
Same as 1.

10 feet

④ HS 0.0

Soil Description: _____
Same as 1.

⑤ HS 0.0

Soil Description: _____
Same as 1.

⑥ HS 0.0

Soil Description: _____
Same as 1.

0 feet

⑦ HS 0.0

Soil Description: _____
Same as 1.

⑧ HS 0.0

Soil Description: _____
Same as 1.

⑨ HS 0.0

Soil Description: _____
Same as 1.

0 feet

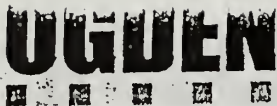
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14B

SAMPLER(S): F. ESQUIBEL, J. CIDRILIA DATE: (0-6") 11-11-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6") 0925 (18-24")

Sample ID: (0-6") B14BBA (18-24")

VOC grab sample was collected from boring: FIVE

~10 feet

① HS 0.0 ppm

Soil Description: Yellowish
brown silt, trace
of fine sand, 10%
silt

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

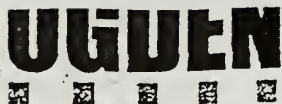
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14C

SAMPLER(S): TD, JD

DATE: 9/16/97

(0-6")

(18-24")

REMARKS:

Sample Time: 1015 VOCs, 1000 All

(0-6")

Sample ID: B14CAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0

Soil Description: Dark brown
organic, trace fine sand
Some medium sand.

② HS 0.0

Soil Description: _____

Same as 1.

③ HS 0.0

Soil Description: _____

Same as 1.

10 feet

④ HS 0.0

Soil Description: _____

Same as 1.

⑤ HS 0.0

Soil Description: _____

Same as 1.

⑥ HS 0.0

Soil Description: _____

Same as 1.

0 feet

⑦ HS 0.0

Soil Description: _____

Same as 1.

⑧ HS 0.0

Soil Description: _____

Same as 1.

⑨ HS 0.0

Soil Description: _____

Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 13

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103

GRID ID: 13J

SAMPLER(S): FE/JF/KD DATE: 1-21-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1220 (0-6")
(18-24")

Sample ID: B13JAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.6

Soil Description Very
dark brown (10YR 2/2)
Very fine SAND, some
Silt

② HS 0.0

Soil Description Same
as /

③ HS 0.0

Soil Description Same
as /

10 feet

④ HS 0.0

Soil Description Same
as /

⑤ HS 0.0

Soil Description Same
as /

⑥ HS 0.0

Soil Description Same
as /

0 feet

⑦ HS 0.0

Soil Description Same
as /

⑧ HS 0.0

Soil Description Same
as /

⑨ HS 0.0

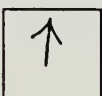
Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: Demo 2

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 13J

SAMPLER(S): RP/JD

DATE: _____

(0-6") 3.25.98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
_____ (18-24")

Sample ID: _____ (0-6")
B13J34 (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR5/4
brownish yellow
fine SAND, some silt

② HS 0

Soil Description: _____
Same as 1,

③ HS 0

Soil Description: 10YR6/3
pale brown fine
SAND & SILT.

10 feet

④ HS 0

Soil Description: 10YR5/4
brownish yellow
fine SAND & SILT

⑤ HS 0

Soil Description: _____
Same as 3.

⑥ HS 0

Soil Description: _____
Same as 3.

0 feet

⑦ HS 0

Soil Description: 10YR4/4
cl/ yellowish brown
fine SAND & SILT

⑧ HS 0

Soil Description: 10YR6/6
brownish yellow
fine SAND, some
SILT.

⑨ HS 0

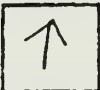
Soil Description: 10YR5/6
Yellowish brown
fine SAND, some
SILT.

0 feet

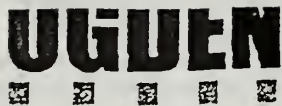
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14A

SAMPLER(S): TD, JD

DATE: 9/16/97 (0-6")

(18-24")

REMARKS:

Sample Time: 835 VOC, 825 All (0-6")

Sample ID: B14AAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #5

10 feet

① HS 0.0

Soil Description: Dark brown
organic, trace medium
sand

② HS 0.0

Soil Description: _____
Same as 1.

③ HS 0.0

Soil Description: _____
Same as 1.

10 feet

④ HS 0.0

Soil Description: _____
Same as 1.

⑤ HS 0.0

Soil Description: _____
Same as 1.

⑥ HS 0.0

Soil Description: _____
Same as 1.

0 feet

⑦ HS 0.0

Soil Description: _____
Same as 1.

⑧ HS 0.0

Soil Description: _____
Same as 1.

⑨ HS 0.0

Soil Description: _____
Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14A

SAMPLER(S): J. Cipollini, F. Esquivel DATE: 11-11-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0751 (0-6") (18-24")

Sample ID: B14ABA (0-6") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND, 10 $\frac{5}{8}$

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS _____

Soil Description: UNABLE
TO COLLECT SAMPLE

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

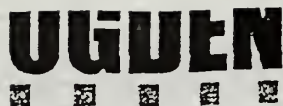
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 14B
SAMPLER(S): TD, JD DATE: 9/16/97 (0-6") (18-24")
REMARKS: _____

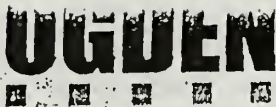
Sample Time: 920 VOCs, 910 All (0-6") Sample ID: B14BAA and B14BAP (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>10</u> feet ↑	① HS <u>0.0</u> Soil Description: <u>Dark brown organic, trace medium sand.</u>	② HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	③ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
	④ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑤ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑥ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
	⑦ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑧ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>	⑨ HS <u>0.0</u> Soil Description: <u>Same as 1.</u>
<u>0</u> feet			
0 feet → <u>10</u> feet → <u>10</u> feet			



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14B

SAMPLER(S): F. ESQUIBEL, J. CIDALIN DATE: (0-6") 11-11-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: (0-6")
0925 (18-24")

Sample ID: (0-6")
B14BBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: Yellowish
brown silt, trace
of fine sand, 10%
↑

② HS 0.0 ppm

Soil Description: SAME

AS 1.

③ HS 0.0 ppm

Soil Description: SAME

AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.
↑

⑤ HS 0.0 ppm

Soil Description: SAME

AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME

AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.
↑

⑧ HS 0.0 ppm

Soil Description: SAME

AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME

AS 1.

0 feet

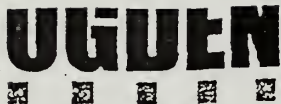
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 14C
SAMPLER(S): ID, JD DATE: 9/16/97 (0-6") (18-24")
REMARKS: _____

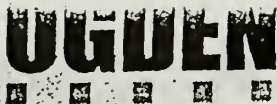
Sample Time: 1015 VOCs, 1000 All (0-6") Sample ID: B14CAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>10</u> feet	① HS <u>0.0</u> Soil Description: <u>Dark brown organic, trace fine sand</u> <u>Some medium sand.</u>	② HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>	③ HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>
<u>10</u> feet	④ HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>	⑤ HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>	⑥ HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>
0 feet	⑦ HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>	⑧ HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>	⑨ HS <u>0.0</u> Soil Description: _____ <u>Same as 1.</u>
0 feet	→ <u>10</u> feet	→ <u>10</u> feet	→ <u>10</u> feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14C

SAMPLER(S): F. EGQUIBEL / T. CIFOLLINI DATE: (0-6") 11-11-97 (18-24")

REMARKS: FID BACKGROUND 0.0 PPM.

Sample Time: (0-6")
1029 (18-24")

Sample ID: (0-6")
B14CBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOW
BROWN SILT, TRACES
OF FINE SAND.
1045
4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

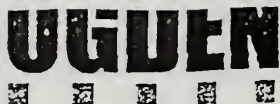
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 14D
SAMPLER(S): TD, JD DATE: 9/16/97 (0-6") (18-24")
REMARKS:

Sample Time: 1055 Vocs, 1045 All (0-6") Sample ID: B14DAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #4

10 feet

① HS 0.0

Soil Description: Light brown
organic, some medium
sand

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 4.3

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 1.1

Soil Description: Same as 1.

⑧ HS 1.1

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

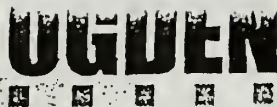
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14 D

SAMPLER(S): F. Esquivel, J. Cipullin; DATE: 11-11-97 (18-24")

REMARKS: FID BACKGROUND 600 ppm

Sample Time: 1109 (18-24")

Sample ID: B14DBA (18-24")

VOC grab sample was collected from boring:

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
SAND. 10% S

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

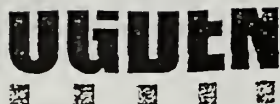
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14 E

SAMPLER(S): TD, JD

DATE: 9/16/97 (0-6")

(18-24")

REMARKS:

Sample Time: VOCs 1150 All 1135 (0-6")

Sample ID: _____ (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #7

10 feet

① HS 0.2

② HS 0.0

③ HS 0.0

Soil Description: Light brown
organic, trace medium
sand

Soil Description: _____

Same as 1.

Soil Description: _____

Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: _____

Same as 1.

Soil Description: _____

Same as 1.

Soil Description: _____

Same as 1.

0 feet

⑦ HS 0.2

⑧ HS 0.1

⑨ HS 0.1

Soil Description: _____

Same as 1.

Soil Description: _____

Same as 1.

Soil Description: _____

Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 14 E

SAMPLER(S): F. ESQUIBEL, J. Cifalini

DATE:

(0-6")

11-11-97

(18-24")

REMARKS: FIN BACKGROUND 0.0 ppm.

Sample Time:

(0-6")

Sample ID:

(0-6")

1156

(18-24")

B14EBA

(18-24")

VOC grab sample was collected from boring:

~10 feet

① HS 0.0 ppm

② HS 0.8 ppm

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
FINE SAND
10Y 5/4

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND
10Y 5/4

Soil Description: SAME
A.S.D.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
A.S.D.

Soil Description: SAME
A.S.D.

Soil Description: SAME
A.S.D.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.4 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
A.S.D.

Soil Description: SAME
A.S.D.

Soil Description: SAME
A.S.D.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 15A
 SAMPLER(S): T. DWYER, J. CIPOLLINI DATE: 10-27-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1452 (0-6") Sample ID: B15AAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: LIGHT YEL-
LOWISH BROWN MEDIUM
SAND. 10Y 6/4

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

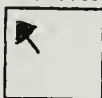
Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 15

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 15A
SAMPLER(S): KD/FE/JF DATE: _____ (0-6") 2-3-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0830 (18-24") B15ABA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0.0

Soil Description Light
Olive brown (2.5Y
5/3) fine SAND

② HS 0.0

Soil Description Same
as 1

③ HS 0.0

Soil Description Same
as 1

10 feet

④ HS 0.0

Soil Description Same
as 1

⑤ HS 0.0

Soil Description Same
as 1

⑥ HS 0.0

Soil Description Same
as 1

0 feet

⑦ HS 0.0

Soil Description Light
Olive brown (2.5Y
5/4) fine SAND

⑧ HS 0.0

Soil Description Same
as 7.

⑨ HS 0.0

Soil Description Same
as 7

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 15

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 15B
 SAMPLER(S): T. DWYER, J. Cipoliti DATE: 10-27-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN

Sample Time: 1532 (0-6") Sample ID: B15BAA/B15BAD (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #6

~10 feet

① HS 0.8 ppm

② HS 0.0 ppm

③ HS 0.2 ppm

Soil Description: YELLOWISH
BROWN MEDIUM SAND,
TRACE OF SILT.
10Y5

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.4 ppm

⑤ HS 0.4 ppm

⑥ HS 4.8 ppm

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.7 ppm

⑧ HS 0.0 ppm

⑨ HS 0.4 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 15

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 15B
SAMPLER(S): KD/FE/JF DATE: _____ (0-6") 2-3-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0900 (18-24") B15BBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



① HS 0.0
Soil Description Brown
(10YR 4/3) fine
SAND

② HS 0.0
Soil Description Dark
Yellowish brown
(10YR 4/4) fine SAND

③ HS 0.0
Soil Description Dark
Yellowish brown
(10YR 4/6) fine SAND

10 feet



④ HS 0.0
Soil Description Same
as 2

⑤ HS 0.0
Soil Description Same
as 2

⑥ HS 0.0
Soil Description Same
as 1

0 feet

⑦ HS 0.0
Soil Description Same
as 2

⑧ HS 0.0
Soil Description Same
as 6

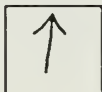
⑨ HS 0.0
Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: 15.

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: C

SAMPLER(S): F. Esquivel

DATE: 1-29-98 (0-6")

(18-24")

REMARKS: 1 remark

Sample Time:

1515

(0-6")

Sample ID:

B/SCAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring:

10 feet

④ HS 0.0

Soil Description: 10 yr ³/₄
dark yellowish
brown fine sands

② HS 0.0

Soil Description: 10 yr ⁵/₆
yellowish brown
fine sands

② HS 0.0

Soil Description: 10 yr ³/₄
dark yellowish
brown fine
sands

10 feet

④ HS 0.0

Soil Description: 10 yr ⁵/₆
yellowish brown
fine sands

⑤ HS 0.0

Soil Description: 10 yr ⁵/₆
yellowish brown
fine sands

⑥ HS 0.0

Soil Description: 10 yr ³/₄
dark yellowish
brown fine sands

0 feet

⑦ HS 0.0

Soil Description: 10 yr ³/₄
dark yellowish
brown fine sands

⑧ HS 0.0

Soil Description: 10 yr ³/₄
dark yellowish
brown fine sands

⑨ HS 0.0

Soil Description: 10 yr ⁵/₆
yellowish brown
fine sands

0 feet

10 feet

10 feet

NORTH



HS: Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: 15C

SAMPLER(S): RP/BG DATE: 4-13-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1630 (0-6") (18-24") Sample ID: B15CBA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



① HS -

Soil Description Light
brown medium
SAND, trace gravel

② HS -

Soil Description same
as 1

③ HS -

Soil Description same
as 1

10 feet



④ HS -

Soil Description same
as 1

⑤ HS -

Soil Description same
as 1

⑥ HS -

Soil Description same
as 1

0 feet

⑦ HS -

Soil Description same
as 1

⑧ HS -

Soil Description same
as 1

⑨ HS -

Soil Description same
as 1

0 feet

10 feet

10 feet

NORTH



PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 4/A

SAMPLER(S): T. DWYER, J. Cipollini DATE: 11-3-97 (0-6") (18-24")

REMARKS: FID BACK GROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN.

Sample Time: 1513 (0-6") (18-24")

Sample ID: B4/AAA/B4/AAD (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF FINE
SAND. 10Y 4/6

② HS 0.0 ppm

Soil Description: DARK
GRAY SILT, SOME
SAND. 10Y 4/1

③ HS 0.0 ppm

Soil Description: SAME AS
2.

~10 feet

④ HS 0.0 ppm

Soil Description: VERY DARK
BROWN SILT, SOME
SAND 10Y 2.

⑤ HS 0.0 ppm

Soil Description: SAME AS
1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME AS
2.

⑨ HS 0.0 ppm

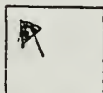
Soil Description: SAME
AS 2.

0 feet

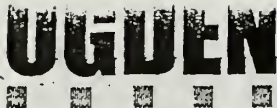
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41A

SAMPLER(S): T. DWYER, J. Cipollini, DATE: 11-3-97 (0-6") 11-3-97 (18-24")

REMARKS: FID BACK GROUND 0.0 ppm

Sample Time: 1610 (0-6") 1610 (18-24")

Sample ID: 341ABA (0-6") 341ABA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN silt, trace
OF FINE SAND. 10Y 5/6

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN silt, trace of
FINE SAND. 10Y 5/6

③ HS 0.0 ppm

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME AS
1.

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: DARK YELLOWISH
BROWN silt, trace
OF FINE SAND. 10Y 4/6

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

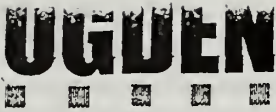
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41 B

SAMPLER(S): J. Cipollini, T. DWYER DATE: 11-4-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0755 (0-6") (18-24")

Sample ID: B41 BAA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

Soil Description: GRAYISH
BROWN FINE SAND,
SOME SILT.

② HS 0.6 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND. 10% S

③ HS 0.0 ppm

Soil Description: SAME AS

2.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME

AS 2.

⑥ HS 0.0 ppm

Soil Description: SAME

AS 2.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME

AS 2.

⑨ HS 0.0 ppm

Soil Description: SAME

AS 2.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 4/

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 4/B

SAMPLER(S): J. Cipollini, T. DWYER DATE: _____ (0-6") 11-4-97 (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: _____ (0-6")
0909 (18-24")

Sample ID: _____ (0-6")
B41BBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

② HS _____

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, + TRACE
OF FINE SAND. 10Y⁵/₆

Soil Description: UNABLE
TO COLLECT SAMPLE
AFTER 3 ATTEMPTS

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS _____

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: UNABLE
TO COLLECT SAMPLE
AFTER 3 ATTEMPTS.

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME AS
1.

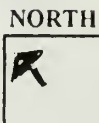
Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

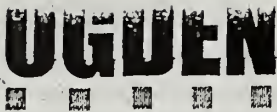
0 feet

~10 feet

~10 feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41C

SAMPLER(S): J. DWYER, J. Cipollini

DATE: 11-4-97

(0-6")

(18-24")

REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: 1010

(0-6")

Sample ID: B41CAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: GRAYISH

Soil Description: SAME

Soil Description: SAME

BROWN SILT, SOME

ASS.

ASS.

FINE SAND. 10Y 5/2

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: YELLOWISH

Soil Description: SAME

Soil Description: SAME

BROWN SILT, SOME

ASS.

ASS.

SAND 10Y 5/2

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: SAME AS

Soil Description: SAME

Soil Description: SAME

1.

ASS.

ASS.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41C

SAMPLER(S): T. DWYER, J. CIPOLLINI

DATE:

(0-6")

11-4-97

(18-24")

REMARKS: FID BACKGROUND 0.2ppm

Sample Time: (0-6")

1100

(18-24")

Sample ID:

(0-6")

B41CBA

(18-24")

VOC grab sample was collected from boring: HOLE #4

~10 feet

① HS 0.3ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME SILT. 10% $\frac{5}{6}$

② HS 0.2ppm

Soil Description: SAME AS
1.

③ HS 0.4ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 3.4ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0ppm

Soil Description: SAME
AS 1.

⑥ HS 1.2ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0ppm

Soil Description: SAME
AS 1.

⑧ HS 0.2ppm

Soil Description: SAME
AS 1.

⑨ HS 0.1ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 41 D

SAMPLER(S): T. DWYER, J. CIPOLLINI DATE: 11-4-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 3.0 ppm

Sample Time: 1308 (0-6") Sample ID: B410AA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 3.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME FINE
SAND. 10Y 3/4

② HS 3.3

Soil Description: DARK
GRAYISH BROWN FINE
SAND, SOME SILT
10Y 4/5

③ HS 3.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 3.0 ppm

Soil Description: SAME
AS 2.

⑤ HS 3.0 ppm

Soil Description: SAME
AS 2.

⑥ HS 3.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 3.0 ppm

Soil Description: SAME
AS 2.

⑧ HS 3.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME SILT. 10Y 5/6

⑨ HS 3.6 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 41D

SAMPLER(S): T. DWYER, T. CIPOLLINI DATE: 11-4-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 3.3 ppm

Sample Time: 1411 (0-6") (18-24")

Sample ID: BY10BA (0-6") (18-24")

VOC grab sample was collected from boring: _____

~10 feet

① HS 3.3 ppm

② HS 3.3 ppm

③ HS 3.3 ppm

Soil Description: YELLOWISH
BROWN SAND, SOME
SILT 10%⁵

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 3.3 ppm

⑤ HS 3.3 ppm

⑥ HS 3.7 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 3.3 ppm

⑧ HS 3.3 ppm

⑨ HS 4.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41E

SAMPLER(S): T. DWYER, J. C. POILLON

DATE: 11-5-97

(0-6")

(18-24")

REMARKS: FID BACKGROUND 0.4 ppm

Sample Time: 1503

(0-6")

Sample ID: B41EAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: #9

~10 feet

① HS 2.1 ppm

② HS 6.8 ppm

③ HS 1.3 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF FINE SAND.
10Y 5/6

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 1.8 ppm

⑤ HS 1.0 ppm

⑥ HS 2.4 ppm

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 2.9 ppm

⑧ HS 9.0

⑨ HS 2.7 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 41 E
 SAMPLER(S): J. Cipollini, T. Dwyer DATE: _____ (0-6") 11-4-97 (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1605 (18-24") B41EBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS _____

Soil Description: UNABLE
to SAMPLE AFTER
3 ATTEMPTS.

② HS 0.0 ppm

Soil Description: YELLOWISH
BROWN silt, TRACE
OF FINE SAND,
10 5/6

③ HS 0.0 ppm

Soil Description: SAME
AS 2.

~10 feet

④ HS 0.4 ppm

Soil Description: SAME AS
2.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 2.

⑧ HS _____

Soil Description: UNABLE
to COLLECT SAMPLE
AFTER 3 ATTEMPTS.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 2.

0 feet

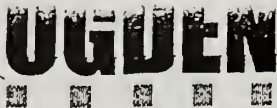
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41 F

SAMPLER(S): J.C. PULLI, E. ESQUIVEL DATE: 11-5-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 0747 (0-6") (18-24")

Sample ID: B41FAA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0

Soil Description: YELLOWISH
BROWN Silt, trace
OF silt.

② HS 0.0

Soil Description: SAME
AS 1.

③ HS 0.0

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0

Soil Description: SAME
AS 1.

⑧ HS 0.0

Soil Description: SAME
AS 1.

⑨ HS 0.0

Soil Description: SAME
AS 1.

0 feet

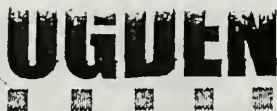
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41F

SAMPLER(S): J. Cipollini, E. Esquivel DATE: (0-6") 11-5-97 (18-24")

REMARKS: FIP BACKGROUND 0.0 ppm - 2.0 ppm

Sample Time: (0-6") 0828 (18-24")

Sample ID: (0-6") B41FBA (18-24")

VOC grab sample was collected from boring: ~~HS~~ NONE

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN silt, trace
of sand 10Y 5/6

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 2.8 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

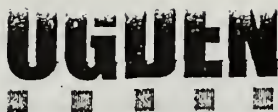
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 416

SAMPLER(S): J. Cipitini, F. Esquivel DATE: 11-5-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 0937 (0-6") (18-24")

Sample ID: 3416AA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.9 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF SAND,

0 feet

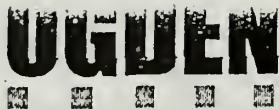
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 416
SAMPLER(S): J. Cipollini, F. Esquivel DATE: (0-6") 11-5-97 (18-24")
REMARKS: FID BACK GROUND 0.0 ppm

Sample Time: (0-6") Sample ID: (0-6")
1021 (18-24") B416BA (18-24")

VOC grab sample was collected from boring: not

~10 feet

① HS 0.0 ppm

② HS 0.6 ppm

③ HS 0.0 ppm

Soil Description: BROWN
YELLOW SILT, TRACE OF
SAND. 10Y 6/8

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.1 ppm

⑤ HS 0.7 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS

⑧ HS 0.0 ppm

⑨ HS 0.0 ppm

Soil Description: UNABLE
TO COLLECT SAMPLE
AFTER 3 TRIES

Soil Description: SAME AS
1.

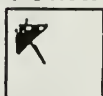
Soil Description: SAME
AS 1.

0 feet

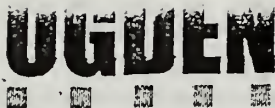
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41H

SAMPLER(S): J. Cipollini, F. Esquivel DATE: 11-5-97 (0-6") (18-24")

REMARKS: Field Background 0.0 ppm.

Sample Time: (0-6")
1106 (18-24")

Sample ID: B41HAA (0-6")
(18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.8 ppm

② HS 0.0 ppm

③ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT + TRACE
OF SAND 10Y5

Soil Description: SAME

AS 4

Soil Description: SAME

AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.2 ppm

Soil Description: SAME

AS 1.

Soil Description: SAME

AS 1.

Soil Description: SAME

AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.1 ppm

⑨ HS 0.0 ppm

Soil Description: SAME

AS ONE.

Soil Description: SAME

AS 1

Soil Description: SAME

AS 1.

0 feet

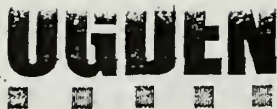
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41H

SAMPLER(S): J. Cipollini, E. Esquivel DATE: 11-5-97 (0-6") 11-5-97 (18-24")

REMARKS: FID BACKGROUND RANGING FROM 0-2 ppm.

Sample Time: 1303 (0-6")
1303 (18-24")

Sample ID: B41HBA (0-6")
B41HBA (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.3 ppm

Soil Description: YELLOW, SH
BROWN SILT, TRACE
FINE SAND 10% $\frac{5}{6}$

② HS 1.2 ppm

Soil Description: SAME AS
1.

③ HS 0.3 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 1.2 ppm

Soil Description: SAME
AS 1.

⑤ HS 1.5 ppm

Soil Description: SAME AS
1.

⑥ HS 0.5 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 1.4 ppm

Soil Description: SAME
AS 1.

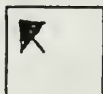
⑧ HS 0.6 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.4 ppm

Soil Description: SAME
AS 1.

NORTH

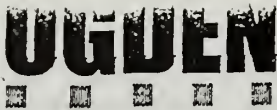


0 feet

~10 feet

~10 feet

HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41I

SAMPLER(S): J. Cipollini, F. Esquivel

DATE: 11-5-97

(0-6")

(18-24")

REMARKS: F; 0 BACKGROUND - 2.0 ppm

Sample Time: 1419

(0-6")

Sample ID: B41IAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 0.0 ppm

② HS 0.1 ppm

③ HS 1.3 ppm

Soil Description: YELLOWISH
BROWN silt, trace
OF SAND,

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 2.4 ppm

⑥ HS 1.1 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 1.9 ppm

⑧ HS 1.1 ppm

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

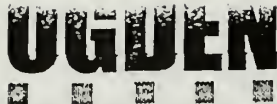
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 41I
SAMPLER(S): J. Cipollini, F. Esquivel DATE: 11-5-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 to 2.0 ppm.

Sample Time: 1504 (0-6") (18-24") Sample ID: B41IBA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 2.1 ppm

② HS 0.4 ppm

③ HS 0.5 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OFF FINE SAND,
10Y 5/8

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.2 ppm

⑤ HS 0.5 ppm

⑥ HS 0.2 ppm

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 0.5 ppm

⑨ HS 0.2 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

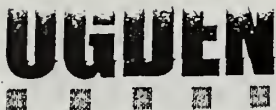
~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 41

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 41J

SAMPLER(S): J. Cipollini, F. Esqueribe DATE: 11-5-97 (0-6") (18-24")

REMARKS: FIP BACKGROUND 0.0 - 2.0 ppm.

Sample Time: 1536 (0-6") (18-24")

Sample ID: B41JAA (0-6") (18-24")

VOC grab sample was collected from boring: NONE

~10 feet

① HS 2.1 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND, 10% S/G

② HS 1.4 ppm

Soil Description: SAME
AS 1.

③ HS 0.4 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.1 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.5 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.4 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42A

SAMPLER(S): Tim Dwyer, Kaela Soto DATE: (0-6") 12/15/97 (18-24")

REMARKS:

Sample Time: (0-6")
1400 (18-24")

Sample ID: (0-6")
B42ABA (18-24")

VOC grab sample was collected from boring: Not taken

10 feet

① HS 0.0

Soil Description: Medium
some fines, trace gravel
trace organic, yellowish
brown 10 Y, 5/8

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

NORTH



0 feet

10 feet

10 feet

HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42A

SAMPLER(S): Tim Dwyer, Kaela Setnick DATE: 12/15/97 (0-6") (18-24")

REMARKS:

Sample Time: 1310 (0-6") (18-24")

Sample ID: B42 AAA (0-6") (18-24")

VOC grab sample was collected from boring: Not taken

10 feet

① HS 0.0

Soil Description: Organic with
Medium, some fines, dark
reddish brown 5YR, 3/2

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42B

SAMPLER(S): Tim Dwyer, Kaela Sznik DATE: 12/15/97 (0-6") (18-24")

REMARKS: FID back ground: 0.0 ppm

Sample Time: 1520 (0-6") (18-24")

Sample ID: B42BAA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Organic, some
medium sand, trace fines, very
dark greyish brown 10YR 3/2

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42 B

SAMPLER(S): K. Sotnik, T. Dwyer

DATE: _____ (0-6")

12/16/97 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")

08:45 (18-24")

Sample ID: _____ (0-6")

B42 BBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: medium sand
with fines, trace gravel,
trace organic, yellowish
brown, 10 YR 5/8

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH

HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42C
 SAMPLER(S): Tim Dwyer, Kadea Sotnik DATE: 12/14/97 (0-6") (18-24")
 REMARKS: _____

Sample Time: 0945 (0-6") Sample ID: B42CAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____

<p><u>10</u> feet</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">(1) HS <u>0.0</u></p> <p>Soil Description: <u>TO Organic</u> <u>with Medium sand, trace fines.</u> <u>dark reddish brown 5YR 3/3</u></p>	<p style="text-align: center;">(2) HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p style="text-align: center;">(3) HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<p><u>10</u> feet</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">(4) HS <u>0.0</u></p> <p>Soil Description: <u>same as 1.</u></p>	<p style="text-align: center;">(5) HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p style="text-align: center;">(6) HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<p>0 feet</p> <p style="text-align: center;">(7) HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p style="text-align: center;">(8) HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p style="text-align: center;">(9) HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>

0 feet

→

10 feet

→

10 feet



PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42C

SAMPLER(S): Tim Dwyer, Kaela Sotnick DATE: _____ (0-6") 12/16/97 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
10:30 (18-24")

Sample ID: _____ (0-6")
B42CBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: silty
medium sand with fines;
yellowish brown, 10YR 5/8

Soil Description: SAME as 1.

Soil Description: SAME as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 42



PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42D

SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 12/16/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 1150 (0-6") Sample ID: B42DAA and B42DAD (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: _____

<u>10</u> feet 	<p>① HS <u>0.0</u></p> <p>Soil Description: <u>Dark yellowish brown 10 YR 3/6, Organic</u> <u>Some medium sand, trace fines</u></p>	<p>② HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>③ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
<u>10</u> feet 	<p>④ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑤ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑥ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
0 feet	<p>⑦ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑧ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>	<p>⑨ HS <u>0.0</u></p> <p>Soil Description: <u>Same as 1.</u></p>
0 feet	<p>→</p>	<p>→</p>	<p>→</p>
	<u>10</u> feet	<u>10</u> feet	<u>10</u> feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42D

SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 12/16/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 12:40 (0-6") (18-24")

Sample ID: B42 DBA + B42 DBD (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: medium sand
with fine trace gravel,
trace some silt; 10YR 5/8

Soil Description: Same as 1.

Soil Description: Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42E

SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 12/16/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 1420 (0-6") (18-24")

Sample ID: B42EAA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Organic with
medium sand, sometimes
Dark yellowish brown 10YR, 4/4

Soil Description: Same as 1.

Soil Description: Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

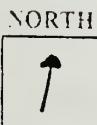
PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42 E
 SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: _____ (0-6") 12/16/97 (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
15:00 (18-24") B42EBA (18-24")

VOC grab sample was collected from boring: _____

<p><u>10</u> feet</p> <p>↑</p>	<p>① HS <u>0.0</u></p> <p>Soil Description: <u>silty</u> <u>Medium sand, trace gravel,</u> <u>some fines, yellowish brown</u> <u>10 yR, 5/2</u></p>	<p>② HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>③ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<p><u>10</u> feet</p> <p>↑</p>	<p>④ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑤ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑥ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<p>0 feet</p>	<p>⑦ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑧ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑨ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>

0 feet → 10 feet → 10 feet



Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42F

SAMPLER(S): Jim Dwyer, Kaela Sothnik DATE: 12/16/97 (0-6") _____ (18-24")

REMARKS: _____

Sample Time: 1540 (0-6") _____ (18-24")

Sample ID: B42FAA (0-6") _____ (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Organic
trace medium sand, trace fines
75YR Strong brown 4/6

Soil Description: same as 1.

Soil Description: same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: same as 1.

Soil Description: same as 1.

Soil Description: same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: same as 1.

Soil Description: same as 1.

Soil Description: same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42F

SAMPLER(S): Kaela Sotnik + Tim Dwyer DATE: 12/16/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 16:20 (0-6") (18-24")

Sample ID: B42FBA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Silty medium
sand with fines,
yellowish brown
10 yr, 5/8

② HS 0.0

Soil Description: SAME as 1.

③ HS 0.0

Soil Description: SAME as 1.

10 feet

④ HS 0.0

Soil Description: SAME as 1.

⑤ HS 0.0

Soil Description: SAME as 1.

⑥ HS 0.0

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

Soil Description: SAME as 1.

⑧ HS 0.0

Soil Description: SAME as 1.

⑨ HS 0.0

Soil Description: SAME as 1.

NORTH



0 feet

10 feet

10 feet

HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 426

SAMPLER(S): Tim Dwyer, Kaela Sotnick DATE: 12/17/97 (0-6") (18-24")

REMARKS:

Sample Time: 0745 (0-6") (18-24")

Sample ID: B42GAA (0-6") (18-24")

VOC grab sample was collected from boring: _____

<p><u>10</u> feet</p> <p>↑</p>	<p>① HS <u>0.0</u></p> <p>Soil Description: <u>Organic, same medium sand, trace fines reddish brown 5YR 4/3.</u></p>	<p>② HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>③ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<p><u>10</u> feet</p> <p>↑</p>	<p>④ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑤ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑥ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<p>0 feet</p>	<p>⑦ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑧ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>	<p>⑨ HS <u>0.0</u></p> <p>Soil Description: <u>SAME as 1.</u></p>
<p>0 feet</p>	<p>→</p>	<p><u>10</u> feet</p>	<p>→</p>

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42 G

SAMPLER(S): Kaela Sotnik, Tim Dwyer DATE: _____ (0-6") 12/17/97 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
08:30 (18-24")

Sample ID: _____ (0-6")
B42 GBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Silty

Soil Description: Same as 1.

Soil Description: Same as 1.

Medium sand with fines
trace gravel; 10 yr ^{5/8}
yellowish brown

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: Same as 1.

Soil Description: Same as 1.

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42H

SAMPLER(S): Tim Dwyer, Knele Smith DATE: 12/17/97 (0-6") (18-24")

REMARKS:

Sample Time: 0915 (0-6") (18-24")

Sample ID: B42HAA (0-6") (18-24")

VOC grab sample was collected from boring:

10 feet

① HS 0.0

Soil Description: Organic with
medium sand and fines,
dark grey 7.5YR 4/1

② HS 0.0

Soil Description: SAME as 1.

③ HS 0.0

Soil Description: SAME as 1.

10 feet

④ HS 0.0

Soil Description: SAME as 1.

⑤ HS 0.0

Soil Description: SAME as 1.

⑥ HS 0.0

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

Soil Description: SAME as 1.

⑧ HS 0.0

Soil Description: SAME as 1.

⑨ HS 0.0

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42H

SAMPLER(S): Kaela Sotnik, Tim Dwyer DATE: _____ (0-6") 12/17/97 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0950 (18-24")

Sample ID: _____ (0-6")
B42 HBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Silty medium
sand with fines trace
gravel; yellowish brown
10 YR 5/6

Soil Description: SAME as 1.

Soil Description: SAME as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SAME as 1.

Soil Description: SAME as 1.

Soil Description: SAME as 1.

NORTH



0 feet

10 feet



10 feet

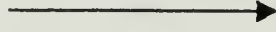

HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42I
 SAMPLER(S): Tim Dwyer, Kaela Sotnik DATE: 1030-12/17/97 (0-6") (18-24")
 REMARKS: _____

Sample Time: 1030 (0-6") Sample ID: B42IAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____

<u>10</u> feet 	(1) HS <u>0.0</u> Soil Description: <u>Organic</u> <u>with medium sand, some fines</u> <u>Very dark grey 7.5 YR 3/1</u>	(2) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>	(3) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>
<u>10</u> feet 	(4) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>	(5) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>	(6) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>
0 feet	(7) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>	(8) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>	(9) HS <u>0.0</u> Soil Description: <u>SAME as 1.</u>

0 feet  10 feet  10 feet



OGDEN

Hand Auger Log

AREA:

42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID:

42 I

SAMPLER(S): Kaela Sotnik, Tim Dwyer

DATE:

(0-6")

12/17/97

(18-24")

REMARKS:

Sample Time:

(0-6")

Sample ID:

(0-6")

11:00

(18-24")

B42 IBA

(18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: Silty medium
sand with fines, trace
gravel; yellowish
brown 10YR 5/6

Soil Description: SAME as 1.Soil Description: SAME as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: SAME as 1.Soil Description: SAME as 1.Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: SAME as 1.Soil Description: SAME as 1.Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42J

SAMPLER(S): Tim Dwyer, Kaela Samik DATE: 12/17/97 (0-6") (18-24")

REMARKS:

Sample Time: 1315 (0-6")

Sample ID: B42JAA (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Organic, some
medium sand, trace fines.
Dark yellowish brown 10YR3/4

② HS 0.0

Soil Description: SAME as 1.

③ HS 0.0

Soil Description: SAME as 1.

10 feet

④ HS 0.0

Soil Description: SAME as 1.

⑤ HS 0.0

Soil Description: SAME as 1.

⑥ HS 0.0

Soil Description: SAME as 1.

0 feet

⑦ HS 0.0

Soil Description: SAME as 1.

⑧ HS 0.0

Soil Description: SAME as 1.

⑨ HS 0.0

Soil Description: SAME as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42J

SAMPLER(S): Kaela Sotnik, Tim Dwyer DATE: 12/17/97 (0-6") (18-24")

REMARKS: _____

Sample Time: 1400 (0-6") (18-24")

Sample ID: B42 JBA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: silty medium sand, some fines, trace gravel; strong brown 7.5 yr 5/8

Soil Description: Same as 1.

Soil Description: Same as 1.

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: same as 1.

Soil Description: same as 1.

Soil Description: same as 1.

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: same as 1.

Soil Description: same as 1.

Soil Description: same as 1.

NORTH



0 feet

10 feet

10 feet

HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 42

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 42K

SAMPLER(S): Tim Dwyer, Kasha Somik DATE: 12/17/97 (0-6") _____ (18-24")

REMARKS: Triple volume taken for MS/MSD.

Sample Time: 1430 (0-6")

(18-24")

Sample ID: B42KAA (0-6")

(18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: Organic
with medium sand and fines
dark reddish brown
2.5 yr 3/4

② HS 0.0

Soil Description: Same as 1.

③ HS 0.0

Soil Description: Same as 1.

10 feet

④ HS 0.0

Soil Description: Same as 1.

⑤ HS 0.0

Soil Description: Same as 1.

⑥ HS 0.0

Soil Description: Same as 1.

0 feet

⑦ HS 0.0

Soil Description: Same as 1.

⑧ HS 0.0

Soil Description: Same as 1.

⑨ HS 0.0

Soil Description: Same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 42K
 SAMPLER(S): Kaela Sotnik, Tim Dwyer DATE: 12/17/97 (0-6") (18-24")
 REMARKS: Triple Volume taken for MS/MSD

Sample Time: 15:15 (0-6") (18-24") Sample ID: B42KBA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0.0

Soil Description: silty medium
sand with fines; brown
7.5 yR 4/4

② HS 0.0

Soil Description: same as 1.

③ HS 0.0

Soil Description: same as 1.

10 feet

④ HS 0.0

Soil Description: same as 1.

⑤ HS 0.7

Soil Description: same as 1.

⑥ HS 0.0

Soil Description: same as 1.

0 feet

⑦ HS 0.0

Soil Description: same as 1.

⑧ HS 0.0

Soil Description: same as 1.

⑨ HS 0.0

Soil Description: same as 1.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: MP 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: A
 SAMPLER(S): J. Cipollini / J. Desmond DATE: 1-7-98 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: 0830 (0-6") Sample ID: BM3AAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5

~10 feet
 1 HS 0.0 PPM Soil Description: VERY DARK BROWN SILT, TRACE OF SAND 10Y 2/2
 2 IIS 0.0 PPM Soil Description: YELLOWISH BROWN SILT, SOME SAND 10Y 5/6
 3 HS 0.0 PPM Soil Description: SAME AS 6

~10 feet
 4 HS 0.0 PPM Soil Description: DARK YELLOWISH SILT, TRACE OF SAND 10Y 3/4
 5 HS 0.0 PPM Soil Description: SAME AS 6
 6 HS 0.0 PPM Soil Description: YELLOWISH BROWN SILT, SOME SAND 10Y 5/6

0 feet
 7 HS 0.0 PPM Soil Description: YELLOWISH BROWN SAND, SOME SILT 10Y 5/6
 8 IIS 0.0 PPM Soil Description: DARK YELLOWISH BROWN SILT, TRACE OF SAND 10Y 4/4
 9 IIS 0.0 PPM Soil Description: SAME AS 8

0 feet ~10 feet ~10 feet



IIS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: MP-3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: M3A

SAMPLER(S): BG/KM

DATE: _____ (0-6") 3-12-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1040 (18-24")

Sample ID: _____ (0-6")
BM3ABA (18-24")

VOC grab sample was collected from boring: _____

10 feet

(1) HS 0

(2) HS 0

(3) HS 0

Soil Description: Strong brown
fine SAND, trace SILT
and gravel (7.5R 5/8)

Soil Description: Same as 1

Soil Description: Same as 1

10 feet

(4) HS 0

(5) HS 0

(6) HS 0

Soil Description: Same as 1

Soil Description: Same as 1

Soil Description: Same as 1

0 feet

(7) HS 0

(8) HS 0

(9) HS 0

Soil Description: Same as 1

Soil Description: Same as 1

Soil Description: Same as 1

10 feet

10

feet

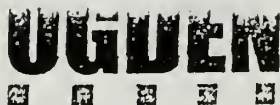
10

feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: MP3

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: B

SAMPLER(S): J. C. Pollini/J. Desmond DATE: 1-7-98 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 PPM

Sample Time: 0940 (0-6") (18-24")

Sample ID: B M3 BAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

~10 feet

(1) HS 0.0 PPM

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF SAND
10Y 3/6

(2) HS 0.0 PPM

Soil Description: SAME AS
1

(3) HS 0.0 PPM

Soil Description: DARK YELLOWISH
BROWN SILT, TRACE OF
SAND 10Y 3/6

~10 feet

(4) HS 0.0 PPM

Soil Description: SAME
AS 3

(5) HS 0.0 PPM

Soil Description: VERY
DARK BROWN SILT
TRACE OF SAND
10Y 3/2

(6) HS 0.0 PPM

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y 3/4

0 feet

(7) HS 0.0 PPM

Soil Description: DARK
YELLOWISH BROWN SILT,
SOME SAND
10Y 4/6

(8) HS 0.0 PPM

Soil Description: DARK
YELLOWISH BROWN SILT
TRACE OF SAND
10Y 3/4

(9) HS 0.0 PPM

Soil Description: SAME AS
7 10Y 4/6

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: MP-3PROJECT NAME: MMRPROJECT NUMBER: 313000103GRID ID: M3BSAMPLER(S): KM/BG

DATE: _____

(0-6")

3-12-98

(18-24")

REMARKS: ① Moved location 1.5' South due to the presence of metal in auger hole.Sample Time: _____ (0-6")
1130 (18-24")Sample ID: _____ (0-6:)
BM3BBA (18-24")

VOC grab sample was collected from boring: _____

60 feet

① HS φ② HS φ③ HS φSoil Description: Strong brown (7.5 YR 5/8) fine SAND, trace SILT and gravelSoil Description: Same as 1Soil Description: Same as 1

10 feet

④ HS φ⑤ HS φ⑥ HS φSoil Description: Same as 1Soil Description: Strong brown (7.5 YR 5/8) fine SAND, some gravel, trace SILTSoil Description: Same as 1

0 feet

⑦ HS φ⑧ HS φ⑨ HS φSoil Description: Same as 1Soil Description: Same as 1Soil Description: Same as 1

0 feet

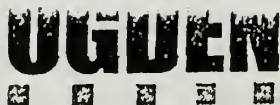
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: C
SAMPLER(S): J. Cipollini / J. Desmond DATE: 1-7-98 (0-6") (18-24")
REMARKS: FIELD BACKGROUND 0.0 ppm

Sample Time: 1030 (0-6") Sample ID: BMBEA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: _____

<u>~10</u> feet ↑ 0 feet	① HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN SILT,</u> <u>SOME SAND. 10Y 3/4</u>	② HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN SILT,</u> <u>TRACE OF SAND</u> <u>10Y 4/6</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN SILT,</u> <u>SOME SAND 10Y 4/4</u>
	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2,</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>3</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>3</u>
	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 3</u>

0 feet ~10 feet ~10 feet



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: MP-3

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: C

SAMPLER(S): BG/KM DATE: 3-11-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1630 (0-6") (18-24")

Sample ID: BM3CBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0

Soil Description Yellowish
brown (10 YR 5/5) fine
SAND, some silt and clay



HS 0

Soil Description Yellowish
brown (10 YR 5/5) fine
Sand, some silt
and Gravel, trace clay



HS 0

Soil Description Yellowish
brown (10 YR 5/5) fine SAND
Some silt, trace
Clay and Gravel

10 feet



HS 0

Soil Description Same
as 3



HS 0

Soil Description Same
as 2



HS 0

Soil Description Yellowish
brown (10 YR 5/5) fine
SAND some silt and
SS SAND, trace clay

0 feet



HS 0

Soil Description Same
as 3



HS 0

Soil Description Same
as 2



HS 0

Soil Description Same
as 6

0 feet

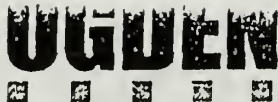
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MD3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: D
SAMPLER(S): J. Cipollini / J. Desmond DATE: 1-7-98 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0ppm

Sample Time: 1116 (0-6") Sample ID: BM3DAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

w10 feet

① HS 0.0ppm

② HS 0.0ppm

③ HS 0.0ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF SAND.
10Y4/4

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y3/6

Soil Description: SAME
AS 1.

w10 feet

④ HS 0.0ppm

⑤ HS 0.0ppm

⑥ HS 0.0ppm

Soil Description: SAME
AS 1

Soil Description: SAME
AS 1

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0ppm

⑧ HS 0.0ppm

⑨ HS 0.0ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1

Soil Description: SAME
AS 1.

0 feet

w10 feet

w10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: M3D
 SAMPLER(S): WG/KM DATE: 3-12-98 (0-6") (18-24")
 REMARKS: _____

Sample Time: 1330 (0-6") (18-24") Sample ID: BM3 DBA (0-6") (18-24")

VOC grab sample was collected from boring: 7

10 feet



HS 0

Soil Description Light
Yellowish brown (10YR
6/4) fine SAND, trace
Silt and Gravel



HS 0

Soil Description Yellowish
brown (10YR 5/6)
fine SAND, trace
Silt and Gravel



HS 0

Soil Description Same
as 1

10 feet



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 2



HS 0

Soil Description Same
as 2

0 feet



HS 17.3

Soil Description Dusky
Red (10YR 3/3) fine
SAND with Organics



HS 0

Soil Description Dark
Yellowish brown (10YR
4/6) fine SAND, some
Silt, Gravel, cobbles



HS 0

Soil Description Dark
Yellowish brown (10YR
4/6) fine SAND, some
Silt and Gravel

0 feet

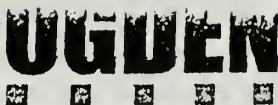
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP 3

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: E
SAMPLER(S): J. Cipollini / J. Desmond DATE: 1-8-97 (0-6") _____ (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1210 (0-6") Sample ID: BM3EAA (0-6")
_____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: 5

~10 feet



① IIS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y 3/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet



④ HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, SOME SAND
10Y 4/4

⑤ HS 0.0 ppm

Soil Description: SAME
AS 4.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 4.

0 feet

⑦ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, TRACE
OF SAND. 10Y 5/8

⑧ IIS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
SAND. 10Y 5/8

⑨ IIS 0.0 ppm

Soil Description: BLACK
SILT, TRACE OF
SAND. 10Y 2/1

0 feet

~10 feet

~10 feet

NORTH



IIS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-3

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: M3E

SAMPLER(S): BG/KM DATE: _____ (0-6") 3-12-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1450 (18-24")

Sample ID: _____ (0-6")
BM3EBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

1 HS 0

Soil Description Dark
Yellowish brown (10YR
3/6) Fine SAND, some
organics

2 HS 0

Soil Description Light
Yellowish brown (10YR
6/4) fine SAND, some
Gravel

3 HS 0

Soil Description Same
as 2

10 feet

4 HS 0

Soil Description Same
as 2

5 HS 0

Soil Description Same
as 2

6 HS 0

Soil Description Same
as 2

0 feet

7 HS —

Soil Description No
Sample

8 HS 0

Soil Description Same
as 2.

9 HS —

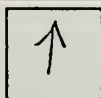
Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-5A

SAMPLER(S): T. DWYER, T. Cipollini DATE: 10-30-97 (0-6") (18-24")

REMARKS: FIND BACKGROUND 0.0 ppm.

Sample Time: 0753 (0-6")

Sample ID: BM5AAA (0-6")

(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

(1) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME SILT. 10Y 5/6

(2) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND,
SOME SILT. 10Y 5/6

(3) HS 0.0 ppm

Soil Description: SAME AS
1.

~10 feet

(4) HS 0.0 ppm

Soil Description: SAME AS
1.

(5) HS 0.0 ppm

Soil Description: SAME AS
1.

(6) HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

(7) HS 0.0 ppm

Soil Description: SAME AS
1

(8) HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
FINE SAND, SOME SILT.
10Y 4/4

(9) HS 0.0 ppm

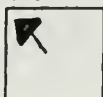
Soil Description: SAME
AS 8.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: MP-5PROJECT NAME: MMRPROJECT NUMBER: 313000103GRID ID: ASAMPLER(S): F. EscobarDATE: 2-2-98

(0-6")

(18-24")

REMARKS: J. Ferretti K. DaddarioSample Time: 1030

(0-6")

Sample ID: BMS ABA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: -10 feet① HS 0.0Soil Description: 2.5Y 4/4
olive brown fine
sands② HS 0.0Soil Description: 2.5Y 4/4
light olive brown
fine sands③ HS 0.0Soil Description: 2.5Y 4/4
olive brown fine
sands10 feet④ HS 0.0Soil Description: 2.5Y 4/4
olive brown fine
sands⑤ HS 0.0Soil Description: 2.5Y 4/4
olive brown fine
sands⑥ HS 0.0Soil Description: 2.5Y 4/4
olive brown
fine sands

0 feet

⑦ HS 0.0Soil Description: 2.5Y 4/4
olive brown
fine sands⑧ HS 0.0Soil Description: 2.5Y 4/4
olive brown fine
sands⑨ HS 0.0Soil Description: 2.5Y 4/4
olive brown
fine sands

0 feet

10 feet10 feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-5B
SAMPLER(S): J. Cipollini, T. Dwyer DATE: 10-30-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 0845 (0-6") Sample ID: B M5 BAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet ↑	① HS <u>0.0 ppm</u> Soil Description: <u>DARK YELLOWISH BROWN, FINE SAND, SOME SILT.</u>	② HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>
	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>
0 feet ↑	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>
	0 feet → ~10 feet → ~10 feet		

NORTH



HS=Headspace PPM (0-6")

UGUEN

Hand Auger Log

AREA: MP5PROJECT NAME: MMRPROJECT NUMBER: 313000103GRID ID: B + ApSAMPLER(S): F. Esp. 1

DATE: _____

(0-6")

2-2-98 (18-24")REMARKS: J. Ferrioli K. Daddario Connected Duplicate

Sample Time: _____

(0-6")

Sample ID: _____

(0-6")

1050

(18-24")

BMSBBA

(18-24")

VOC grab sample was collected from boring: _____

10 feet1 (1) HS 0.0Soil Description: 10YR 4/4Dark Yellowish
Brown fine Sands

2

HS 0.0Soil Description: 7.5YR 4/6Strong Brown
Fine Sands

3

HS 0.0Soil Description: 7.5YR 4/6Strong Brown
Fine Sands10 feet1 (4) HS 0.0Soil Description: 10YR 4/4Dark Yellowish
Brown fine Sands

5

HS 0.0Soil Description: 7.5YR 4/6Strong Brown
Fine Sands

6

HS 0.0Soil Description: 10YR 4/4Dark Yellowish
Brown fine Sands

0 feet

1 (7) HS 10YR 4/4Soil Description: 0.0Dark Yellowish
Brown fine Sands

8

HS 0.0Soil Description: 10YR 4/4Dark Yellowish
Brown fine Sands

9

HS 0.0Soil Description: 7.5YR 4/6Strong Brown
Fine Sands

0 feet

10 feet10

feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-5 C
SAMPLER(S): J. Cipollini, T. DWYER DATE: 10-30-97 (0-6") (18-24")
REMARKS: EID BACKGROUND 0.0 ppm

Sample Time: 0957 (0-6") Sample ID: BM5CAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: # 5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SILT, SOME
FINE SAND. 10Y 5/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SILT, TRACE OF SAND.
10Y 4/4

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME AS
1.

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 3.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: C
 SAMPLER(S): F. Esquivel DATE: 2-2-98 (0-6") (18-24")
 REMARKS: J. Ferrati K. Dadoero

Sample Time: 1145 (0-6") (18-24") Sample ID: Bm5CBA (0-6") (18-24")

VOC grab sample was collected from boring: -

10 feet	<p>① HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine</u> <u>Sands w/ slight Organics</u></p>	<p>② HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine Sands</u> <u>w/ org Inclusions</u></p>	<p>③ HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine Sands</u> <u>w/ org Inclusions</u></p>
10 feet	<p>④ HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine</u> <u>Sands w/ org Inclusions</u></p>	<p>⑤ HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine</u> <u>Sands w/ org Inclusions</u></p>	<p>⑥ HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine</u> <u>Sands w/ org Inclusions</u></p>
0 feet	<p>⑦ HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine Sands</u> <u>w/ org Inclusions</u></p>	<p>⑧ HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine</u> <u>Sands w/ org Inclusions</u></p>	<p>⑨ HS <u>0.0</u> Soil Description: <u>2.5 Y 4/4</u> <u>olive brown fine Sands</u> <u>w/ org Inclusions</u></p>

0 feet 10 feet 10 feet

NORTH



HS Headspace PPM (0-6")

Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-5D
 SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-30-97 (0-6") (18-24")
 REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1036 (0-6") Sample ID: BMPDAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>~10</u> feet 	(1) HS <u>0.0 ppm</u> Soil Description: <u>VERY DARK</u> <u>GRAYISH BROWN FINE</u> <u>SAND, SAME SILT.</u> <u>10Y 3/2</u>	(2) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	(3) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	
	<u>~10</u> feet 	(4) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	(5) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	(6) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>
	0 feet (7) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	(8) HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	(9) HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	

0 feet ~10 feet ~10 feet

NORTH



HS-Headspace PPM (0-6")



Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: D

SAMPLER(S): FE/JF/KD DATE: 2-2-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1215 (0-6") (18-24") Sample ID: BMSDBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/4) Fine SAND



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

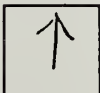
0 feet

10 feet

feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-5

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-5E
SAMPLER(S): T. DWYER, J. CIPOLLINI DATE: 10-30-97 (0-6") (18-24")
REMARKS: FID BACKGROUND 0.0 ppm.

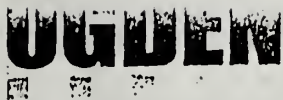
Sample Time: 1345 (0-6") Sample ID: BM5EAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

<u>~10</u> feet ↑	① HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>GRAYISH BROWN SILT,</u> <u>SOME FINE SAND.</u> <u>10Y 4/4</u>	② IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>
	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑤ IIS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑥ IIS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
0 feet ↑	⑦ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑧ IIS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑨ IIS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>
	0 feet → <u>~10</u> feet → <u>~10</u> feet		



IIS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP5

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: E

SAMPLER(S): F. Esposito

DATE: 2-2-98

(0-6")

(18-24")

REMARKS: J. Ferrati K. DeLano

Sample Time: 1425

(0-6")

Sample ID: BM5 EBA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring

10 feet

① HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

② HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

③ HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

10 feet

④ HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

⑤ HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

⑥ HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

0 feet

⑦ HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

⑧ HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

⑨ HS 0.0

Soil Description: 10PR 4/6

Dark Yellowish Brown
Fine Sands

0 feet

10

feet

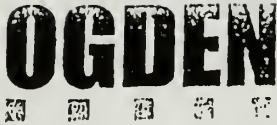
10

feet

NORTH



HS Headpace PPM (0-6")



Hand Auger Log

AREA: MP6

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP6A
SAMPLER(S): T. DWYER, J. C. Feltz DATE: 10-30-97 (0-6") (18-24")
REMARKS: FID BACK GROUND 0.0 ppm.

Sample Time: 1432 (0-6") Sample ID: BMGAAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH

BROWN Silt, some

FINE SAND 10Y 5/6

② HS 0.0 ppm

Soil Description: DARK

GRAYISH BROWN

Silt, some SAND.

10Y 3/2

③ HS 0.0 ppm

Soil Description: SAME AS

2.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME

AS 2.

⑤ HS 0.0 ppm

Soil Description: SAME AS

2.

⑥ HS 0.0 ppm

Soil Description: SAME

AS 2.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME

AS 2

⑧ HS 0.0

Soil Description: SAME AS

2.

⑨ HS 0.0 ppm

Soil Description: SAME

AS 2.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

UGDER

Hand Auger Log

AREA: M P C

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID

A

SAMPLER(S): CD, FE, & JF

DATE:

(0-6")

2-2-98

(18-24")

REMARKS:

Sample Time:

(0-6")

Sample ID:

(0-6")

1450

(18-24")

BM6ABA

(18-24")

VOC grab sample was collected from boring

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description

10YR4/4

Soil Description

10YR4/4

Soil Description

10YR4/4

DK. Yellowish Br. DK. Yellowish Br. DK. Yellowish Br.
FINE SANDS FINE SANDS FINE SANDS

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description

10YR4/4

Soil Description

10YR4/4

Soil Description

10YR4/4

DK. Yellowish Br. DK. Yellowish Br. DK. Yellowish Br.
FINE SANDS FINE SANDS FINE SANDS

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description

10YR4/4

Soil Description

10YR4/4

Soil Description

10YR4/4

DK. Yellowish Br. DK. Yellowish Br. DK. Yellowish Br.
FINE SANDS FINE SANDS FINE SANDS

0 feet

10 feet

10

feet

NORTH



HS Headspace PPM (0-6")



Hand Auger Log

AREA: MP6

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP6B

SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-30-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1534 (0-6")
(18-24")

Sample ID: BM6BAA (0-6")
(18-24")

VOC grab sample was collected from boring: #5

~10 feet

(1) HS 0.0 ppm

(2) HS 0.0 ppm

(3) HS 0.0 ppm

Soil Description: DARK BROWN
SILT, SOME FINE
SAND. 10Y3/3

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

~10 feet

(4) HS 0.0 ppm

(5) HS 0.0 ppm

(6) HS 0.0 ppm

Soil Description: SAME AS
1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

(7) HS 0.0 ppm

(8) HS 0.0 ppm

(9) HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

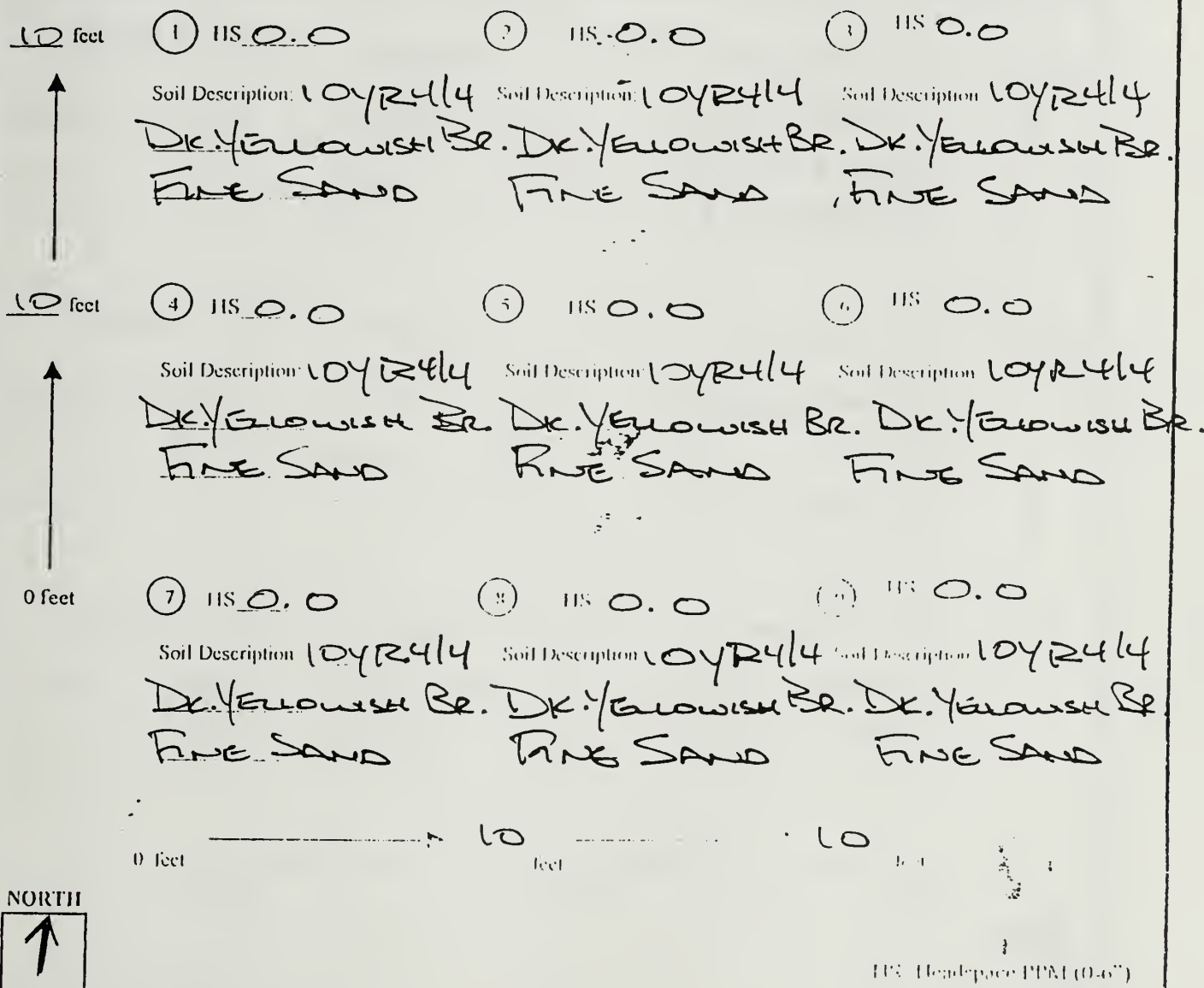


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: B
 SAMPLER(S): KD, FE, + JF DATE: (0-6") 2-2-98 (18-24")
 REMARKS:

Sample Time: (0-6") Sample ID: (0-6")
 1510 (18-24") BM6BBA (18-24")

VOC grab sample was collected from boring





Hand Auger Log

AREA: MP-6

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-6C

SAMPLER(S): J. DWYER, J. Cipriani DATE: 10-31-97 (0-6") (18-24")

REMARKS: FIND BACKGROUND 0.0 ppm. DUPLICATE SAMPLE
TAKEN.

Sample Time: 0801 (0-6") Sample ID: BH6CAA/BH6CAD (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

(1) HS 0.0 ppm

Soil Description: YELLOWISH
BROWN Silt, TRACE
FINE SAND. 10Y 5/6

(2) HS 0.0 ppm

Soil Description: SAME
AS 1.

(3) HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

(4) HS 0.0 ppm

Soil Description: SAME
AS 1.

(5) HS 5.8 ppm

Soil Description: SAME
AS 1.

(6) HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

(7) HS 0.0 ppm

Soil Description: SAME
AS 1.

(8) HS 0.0 ppm

Soil Description: SAME
AS 1.

(9) HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: MP6

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: C

SAMPLER(S): ED, FE, + JF

DATE:

(0-6") 2-2-98 (18-24")

REMARKS:

Sample Time:

(0-6")

Sample ID:

(0-6")

1540

(18-24")

BM6CBA

(18-24")

VOC grab sample was collected from boring

10 feet

① H/S 0.0

② H/S 0.0

③ H/S 0.0

Soil Description: 10/24/4

Soil Description: 10/24/4

Soil Description: 10/24/4

DK. Yellowish Br.
FINE SANDDK. Yellowish Br.
FINE SANDDK. Yellowish Br.
FINE SAND

10 feet

④ H/S 0.0

⑤ H/S 0.0

⑥ H/S 0.0

Soil Description: 10/24/3

Soil Description: 10/24/4

Soil Description: 10/24/4

BROWN
FINE SANDDK. Yellowish Br.
FINE SANDDK. Yellowish Br.
FINE SAND

0 feet

⑦ H/S 0.0

⑧ H/S 0.0

⑨ H/S 0.0

Soil Description: 10/24/4

Soil Description: 10/24/4

Soil Description: 10/24/4

DK. Yellowish Br.
FINE SANDDK. Yellowish Br.
FINE SANDDK. Yellowish Br.
FINE SAND

0 feet

10

feet

10

feet

NORTH



H/S: Headpace PPM (0-6")



Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: MP-8A
SAMPLER(S): J. Cipollini, T. Dwyer DATE: 10-31-97 (0-6") (18-24")
REMARKS: END BACKGROUND 0.0 ppm.

Sample Time: 0907 (0-6") Sample ID: BM8AAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #5

	① HS <u>0.0 ppm</u> Soil Description: <u>DARK</u> <u>YELLOWISH BROWN</u> <u>SILT, SOME SAND</u> <u>10 1/4"</u>	② HS <u>0.0 ppm</u> Soil Description: <u>DARK YELLOWISH</u> <u>BROWN SILT, SOME</u> <u>SAND. 10 3/4"</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>
	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 1.</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>
	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS</u> <u>2.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME</u> <u>AS 2.</u>

0 feet ~10 feet ~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP8

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: A

SAMPLER(S): KD/FE/JF DATE: _____ (0-6") 2-3-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1000 (18-24")

Sample ID: _____ (0-6")
BM8ABA (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0
Soil Description Dark
Yellowish brown
(10YR 4/4) fine SAND

② HS 0.0
Soil Description Same
as 1

③ HS 0.0
Soil Description Same
as 1

10 feet

④ HS 0.0
Soil Description Dark
Yellowish brown
(10YR 4/4) fine SAND
with Black fine SAND

⑤ HS 0.0
Soil Description Same
as 4

⑥ HS 0.0
Soil Description Same
as 1

0 feet

⑦ HS 0.0
Soil Description Same
as 4

⑧ HS 0.0
Soil Description Same
as 1

⑨ HS 0.0
Soil Description Same
as 4

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-8B

SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-31-97 (0-6") (18-24")

REMARKS: FID BACK GROUND 0.0 ppm.

Sample Time: 1003 (0-6") (18-24")

Sample ID: BM8BAA (0-6") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN SILT,
TRACE FINE SAND.
10 4/6

② HS 0.0 ppm

Soil Description: SAME AS
1.

③ HS 0.0 ppm

Soil Description: VERY DARK
GRAYISH BROWN SILT,
SOME FINE SAND
10 1/2

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME AS
1.

⑥ HS 0.0 ppm

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME AS
1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME AS
3.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: B

SAMPLER(S): KD/FE/JE DATE: _____ (0-6") 2-3-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1030 (18-24") BMSBBA (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Yellowish
brown (10YR 5/4)
fine SAND



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

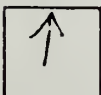
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP-8

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: MP-8C

SAMPLER(S): J. Cipollini, T. Dwyer DATE: 10-31-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN.

Sample Time: 1045 (0-6") (18-24")

Sample ID: B.M8CAA/B.M8CAD (0-6") (18-24")

VOC grab sample was collected from boring: #5

	① HS <u>0.0 ppm</u> Soil Description: <u>YELLOWISH BROWN SILT, TRACE OF FINE SAND. 10Y 5/7</u>	② HS <u>0.0 ppm</u> Soil Description: <u>DARK GRAYISH BROWN SILT, TRACE OF FINE SAND. 10Y 4/2</u>	③ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 2.</u>
	④ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑤ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 1.</u>	⑥ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 2.</u>
	⑦ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 2.</u>	⑧ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 2.</u>	⑨ HS <u>0.0 ppm</u> Soil Description: <u>SAME AS 2.</u>
0 feet	~10 feet	~10 feet	~10 feet



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: MP8

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: C

SAMPLER(S): KD/FE/JF DATE: 2-3-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1100 (0-6") (18-24") Sample ID: BM8CBA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Dark
Yellowish brown
(10 y 4/4) fine SAND



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 6A-7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: A

SAMPLER(S): KD, FE, + JF DATE: 1-27-98 (0-6") (18-24")

REMARKS:

Sample Time: 1115 (0-6")

Sample ID: BGMAAA (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0

Soil Description: LOYR3/4 Soil Description: LOYR3/4 Soil Description: LOYR3/4

Very Dr. Yellowish Br. Dr. Yellowish Br. Dr. Yellowish Br.

FINE-MGD SAND FINE-MGD SAND FINE-MGD SAND

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0

Soil Description: LOYR3/4 Soil Description: LOYR3/4 Soil Description: LOYR3/4

Dr. Yellowish Br. Dr. Yellowish Br. Dr. Yellowish Br.

FINE-MGD SAND FINE-MGD SAND FINE-MGD SAND

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description: LOYR3/4 Soil Description: LOYR3/2 Soil Description: LOYR3/4

Dr. Yellowish Br. Very Dark Br. Dr. Yellowish Br.

FINE-MGD SAND SILTY FINE SAND FINE-MGD SAND

0 feet

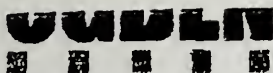
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GMA

SAMPLER(S): RP/ID

DATE: _____ (0-6") 3.24.98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0845 (18-24")

Sample ID: _____ (0-6:)
BGMA BA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR 4/6
dark yellowish brown
organic soil & fine sand

② HS 0

Soil Description: Same as 1

③ HS 0

Soil Description: 10YR 4/4
dark yellowish brown
organic soil & fine sand

10 feet

④ HS 0

Soil Description: 10YR 5/6
yellowish brown organic
soil & fine sand

⑤ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
organic soil & fine sand

⑥ HS 0

Soil Description: Same as 5

0 feet

⑦ HS 0

Soil Description: Same as 5

⑧ HS 0

Soil Description: Same as 5

⑨ HS 0

Soil Description: Same as 5

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

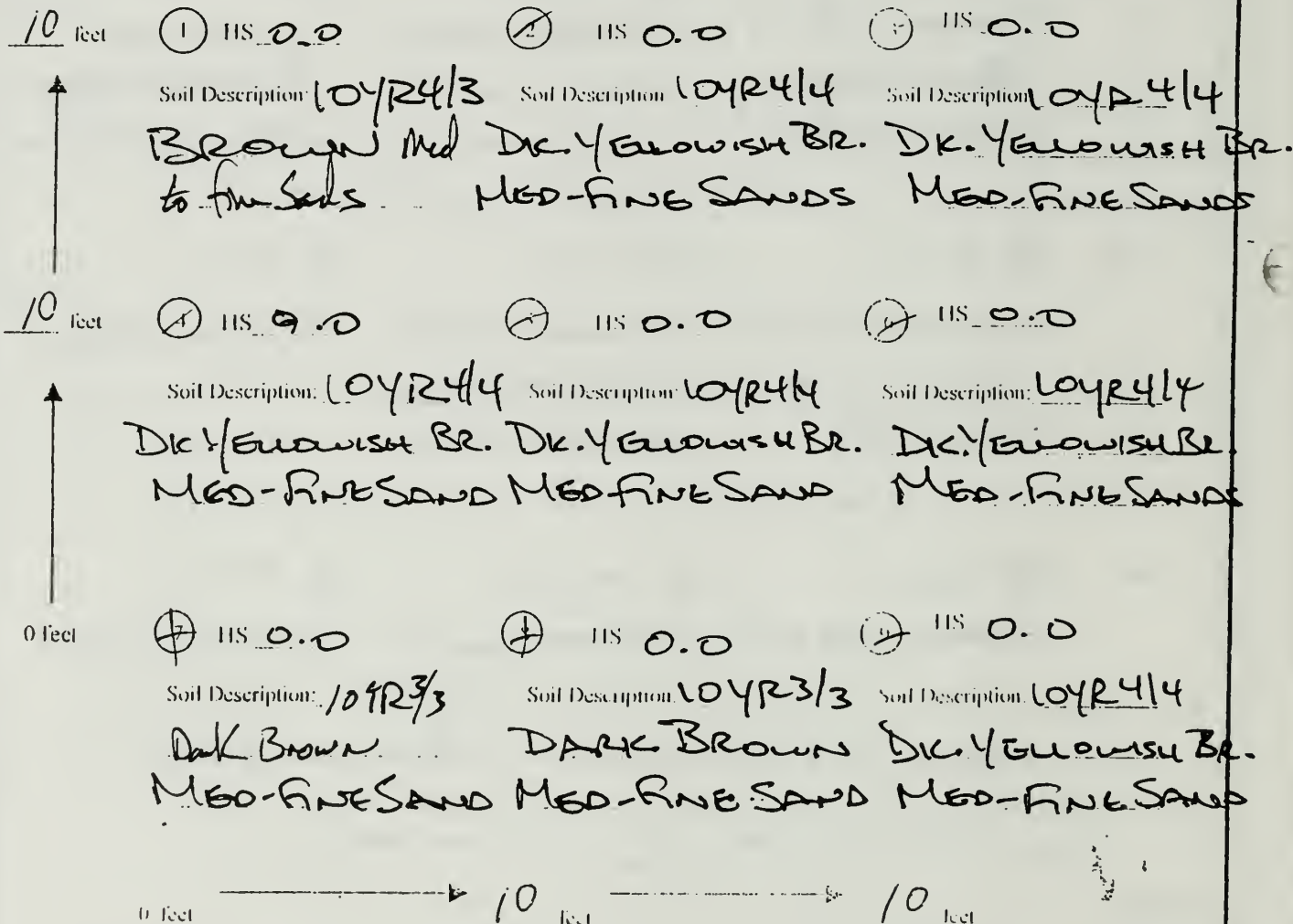
Hand Auger Log

AREA: GP 7

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: B
SAMPLER(S): E. Esquivel DATE: 1-27-98 (0-6") (18-24")
REMARKS: J. Ferrati K. Dedotto

Sample Time: 1325 (0-6") Sample ID: BGM BAA (0-6")
(18-24") (18-24")

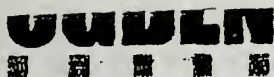
VOC grab sample was collected from boring: 5



NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: 6P7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GMB

SAMPLER(S): RP/SD

DATE: _____ (0-6") 3-24-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
7:50 (18-24")

Sample ID: _____ (0-6")
B G M B G A (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR4/4
d/yellowish brown
fine SILT & SAND,
trace m. gravel

② HS 0

Soil Description: 10YR5/4
yellowish brown dense
SILT & f. SAND

③ HS 0

Soil Description: 10YR4/4
d/yellowish brown
fine SAND, some silt.

10 feet

④ HS 0

Soil Description: 10YR5/4
Yellowish brown mod.
dense SILT, and f.
Sand.

⑤ HS 0

Soil Description: 10YR5/4
Yellowish brown SILT
& f. SAND, trace
m to f gravel.

⑥ HS 0

Soil Description: _____
Same as 5.

0 feet

⑦ HS 0

Soil Description: 10YR4/6
d/yellowish brown
fine SAND, some silt,
trace f. gravel.

⑧ HS 0

Soil Description: _____
Same as 7.

⑨ HS 0

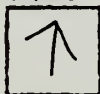
Soil Description: 10YR4/6
d/yellowish brown
f. SAND & SILT,
trace f. gravel.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

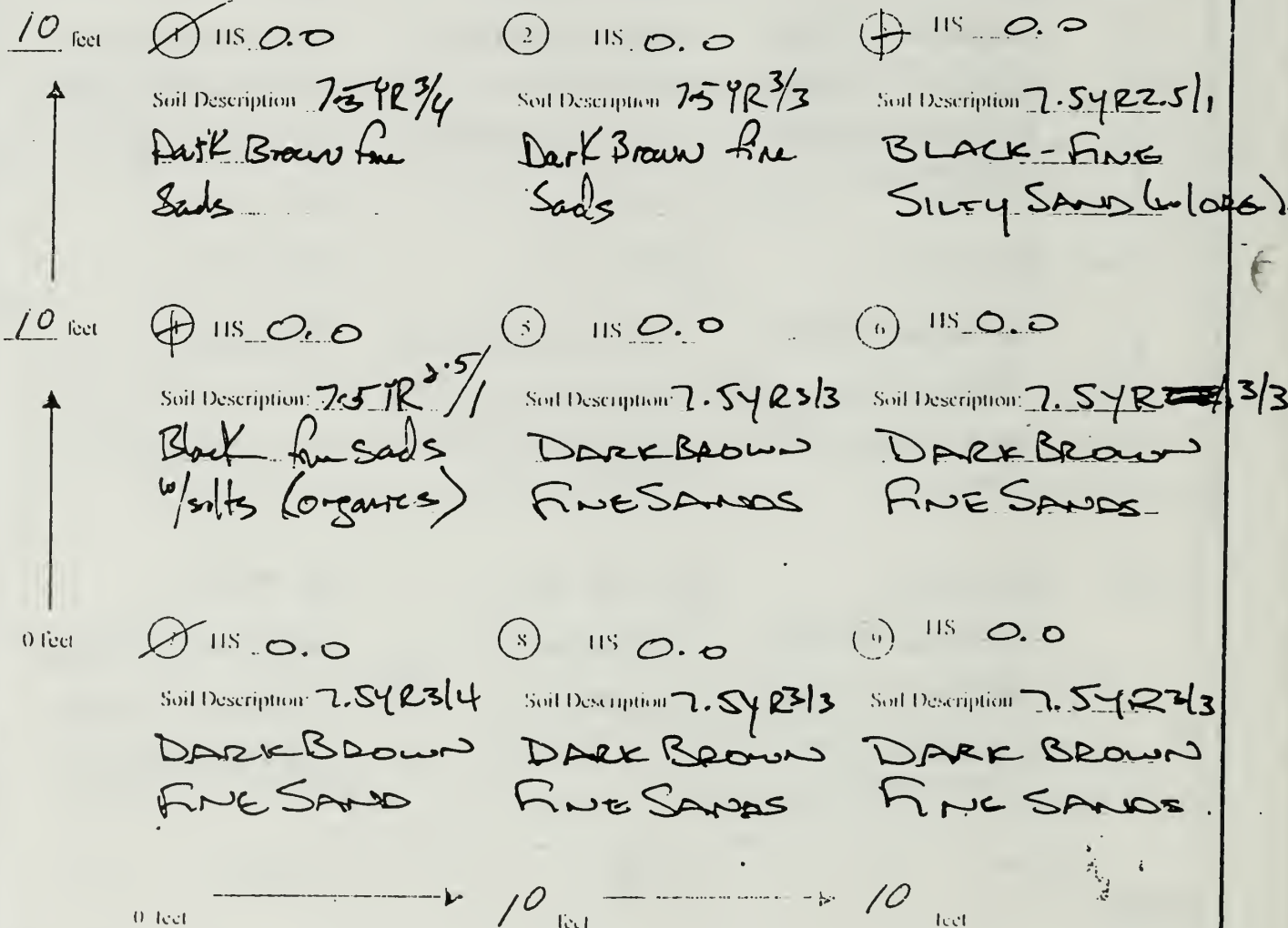
Hand Auger Log

AREA: GP 7

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: C
SAMPLER(S): F. Esquivel DATE: 1-7-98 (0-6") (18-24")
REMARKS: J. Ferrant K. Daddario

Sample Time: 1345 (0-6") Sample ID: BGMCAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring 5



HS Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: LMC

SAMPLER(S): JD

DATE: _____ (0-6")

03/23/98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")

1510 (18-24")

Sample ID: _____ (0-6")

B6MCBA

_____ (0-6")

_____ (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR 6/6
brownish yellow fine
sand + silt

② HS 0

Soil Description: Same as 1

③ HS 0

Soil Description: Same as 1

10 feet

④ HS 0

Soil Description: Same as 1

⑤ HS 0

Soil Description: Same as 1

⑥ HS 0

Soil Description: 10YR 6/8
brownish yellow fine
sand + silt

0 feet

⑦ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
organic soil + fine sand

⑧ HS 0

Soil Description: 10YR 6/6
brownish yellow fine sand
+ silt

⑨ HS 0

Soil Description: 10YR 6/6
brownish yellow fine
sand + silt

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: GP 07

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 0

SAMPLER(S): KD, FG + IF DATE: 1-27-98 (0-6") (18-24")

REMARKS:

Sample Time: 1050 (0-6")

Sample ID: BGMDAA (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3 Soil Description: 10YR4/3

DARK BROWN DARK BROWN BROWN
FINE-MED. SAND FINE-MED. SAND MEDIUM SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 10YR4/3 Soil Description: 7.5YR3/3 Soil Description: 7.5YR3/3

BROWN DARK BROWN DARK BROWN
MEDIUM SAND FINE-MED. SAND FINE-MED. SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 10YR4/3 Soil Description: 7.5YR3/3 Soil Description: 10YR4/3

BROWN DARK BROWN BROWN
MEDIUM SAND FINE-MED. SAND MEDIUM SAND

0 feet

10 feet

10 feet

NORTH



HS: Headspace PPM (0-6")



Hand Auger Log

AREA: OP5, 6, 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: E

SAMPLER(S): KD, FE, JF DATE: _____ (0-6") 2-4-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1350 (18-24") BOPGBA (18-24")

VOC grab sample was collected from boring: —

10 feet



HS 0.0

Soil Description Yellowish
brown (10 yr 5/4)
Fine SAND



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: OPE

SAMPLER(S): T. DWIER, T. CIVILINI DATE: 10-27-97 (0-6") (18-24")

REMARKS: ED BACKGROUND 0.0 ppm. DUPLICATE SAMPLE TAKEN.

Sample Time: 1610 (0-6") (18-24")

Sample ID: BOPEAA/BOPEAD (0-6") (18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN FINE SAND
TRACE SILT
10% S₈

② HS 0.0 ppm

Soil Description: SAME AS
1.

③ HS 0.0 ppm

Soil Description: SAME AS
1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6, 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: D

SAMPLER(S): KD, FE, JF DATE: _____ (0-6") 2-4-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1310 (18-24") BOPDBA (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Very
Dark Brown
(10YR 2/2) fine
SAND and Organics



HS 0.0

Soil Description Brown
(10YR 4/3) fine
SAND



HS 0.0

Soil Description Dark
Yellowish brown (10YR
4/6) fine SAND

10 feet



HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/4) fine SAND



HS 0.0

Soil Description Same
as 3



HS 0.0

Soil Description Same
as 3

0 feet



HS 0.0

Soil Description Same
as 3



HS 0.0

Soil Description Same
as 4



HS 0.0

Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: OPD

SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-29-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm.

Sample Time: 1525 (0-6") (18-24")

Sample ID: BOPDAA (0-6") (18-24")

VOC grab sample was collected from boring: #9

~10 feet

① HS 0.0 ppm

② HS 4.5 ppm

③ HS 0.0 ppm

Soil Description: IF FLOWISH
BROWN FINE SAND, SOME
SILT 10% $\frac{5}{4}$

Soil Description: SAME
AS 1.

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

⑤ HS 0.0 ppm

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

⑦ HS 0.0 ppm

⑧ HS 3.4 ppm

⑨ HS 5.0 ppm

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

Soil Description: SAME AS
1.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6, 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: C

SAMPLER(S): KD, FE, JF DATE: 2-4-98 (0-6") (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1055 (18-24")

Sample ID: _____ (0-6")
BOPCBA (18-24")

VOC grab sample was collected from boring: —

10 feet



HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/4) Fine SAND



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: OPC

SAMPLER(S): T. DWYER, J. Cipolli

DATE: 10-29-97 (0-6")

(18-24")

REMARKS: FID BACKGROUND

Sample Time: 1447 (0-6")
(18-24")

Sample ID: B c P C A A (0-6")
(18-24")

VOC grab sample was collected from boring: #5

~10 feet

① HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND, SAME
S; 1+ 10Y 5

② IIS 0.0 ppm

Soil Description: SAME
AS 1.

③ IIS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME AS
1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑥ IIS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ IIS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

~10 feet

~10 feet

NORTH



IIS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6, + 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: B
SAMPLER(S): KD, FE, JF DATE: _____ (0-6") 2-4-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0945 (18-24") BOPBBA (18-24")

VOC grab sample was collected from boring: —

10 feet



HS 0.0

Soil Description Dark
Yellowish Brown
(10YR 4/6) fine SAND



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

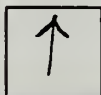
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: OPB

SAMPLER(S): T. DWYER, J. Cipollini DATE: 10-29-97 (0-6") (18-24")

REMARKS: FID BACKGROUND 0.0 ppm

Sample Time: 1204 (0-6") (18-24")

Sample ID: BOPBAA (0-6") (18-24")

VOC grab sample was collected from boring: IS

~10 feet

① HS 0.0 ppm

Soil Description: DARK
YELLOWISH BROWN
SAND, SOME SILT.
10Y 4/4

② HS 0.0 ppm

Soil Description: SAME
AS 1.

③ HS 0.0 ppm

Soil Description: SAME
AS 1.

~10 feet

④ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑤ HS 0.0 ppm

Soil Description: SAME
AS 9.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 1.

0 feet

⑦ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 1.

⑨ HS 0.0 ppm

Soil Description: YELLOWISH
BROWN SAND, SOME
SILT 10Y 5/6

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP 5, 6 + 7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: A

SAMPLER(S): KD/FE/JF DATE: 2-4-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1020 (0-6") (18-24") Sample ID: BOPABA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Brown
(10YR 4/3) fine
SAND



HS 0.0

Soil Description Yellowish
brown (10YR 5/4)
fine SAND



HS 0.0

Soil Description Same
as 2

10 feet



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 1

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: OP

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: OPA
SAMPLER(S): J. DWYER, J. CIPOLLINI DATE: 10-24-97 (0-6") (18-24")
REMARKS: FID BACK GROUND 0.0 ppm

Sample Time: 1130 (0-6") Sample ID: BOPAAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: #7

~10 feet

① HS 0.0 ppm

Soil Description: BLACK
SILT, SOME FINE
SAND, TRACE OF
COARSE SAND
10Y 2/1

② HS 0.0 ppm

Soil Description: SAME AS
4.

③ HS 0.0 ppm

Soil Description: SAME AS
4.

~10 feet

④ HS 0.0 ppm

Soil Description: YELLOWISH
POSSIBLY GRADED
BROWN SAND, SOME SMALL
STONES
10Y 5/6

⑤ HS 0.0 ppm

Soil Description: SAME AS
4.

⑥ HS 0.0 ppm

Soil Description: SAME
AS 4.

0 feet

⑦ HS 2.9 ppm

Soil Description: SAME
AS 4.

⑧ HS 0.0 ppm

Soil Description: SAME
AS 4.

⑨ HS 0.0 ppm

Soil Description: SAME
AS 4.

0 feet

~10 feet

~10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-18

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GLI

SAMPLER(S): RP/JD DATE: _____ (0-6") 3-20-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0845 (18-24")

Sample ID: _____ (0-6")
BGLIBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

HS 0

Soil Description Brownish
Yellow (10YR 6/8)
fine SAND

HS 0

Soil Description Brownish
Yellow (10YR 6/8)
fine SAND, trace
Silt.

HS 0

Soil Description Yellowish
brown (10YR 5/6)
fine SAND, trace silt

10 feet

HS 0

Soil Description Same
as 3

HS 0

Soil Description Same
as 3

HS 0

Soil Description Yellowish
brown (10YR 5/6)
fine SAND

0 feet

HS 0

Soil Description Brownish
Yellow (10YR 6/6)
fine SAND, trace
fine Gravel

HS 0

Soil Description Same
as 6

HS 0

Soil Description Brownish
Yellow (10YR 6/6)
fine SAND, trace
med SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GLI
 SAMPLER(S): KD, FE, JE DATE: 2-6-98 (0-6") (18-24")
 REMARKS: Control Grid

Sample Time: 1030 (0-6") Sample ID: BGLIAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet



① HS 0.0
 Soil Description Black
(10 YR 2/1) fine
SAND

② HS 0.0
 Soil Description Same
as 1

③ HS 0.0
 Soil Description Same
as 1

10 feet



④ HS 0.0
 Soil Description Same
as 1

⑤ HS 0.0
 Soil Description Same
as 1

⑥ HS 0.0
 Soil Description Same
as 1

0 feet

⑦ HS 0.0
 Soil Description Same
as 1

⑧ HS 0.0
 Soil Description Same
as 1

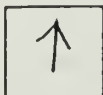
⑨ HS 0.0
 Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-18

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GLH

SAMPLER(S): RP/JD DATE: (0-6") 3-19-98 (18-24")

REMARKS:

Sample Time: (0-6") 1115 (18-24") Sample ID: BGLHBA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

1 HS 0

Soil Description Yellowish
brown (10YR 5/6)
fine SAND and silt,
trace Gravel

2 HS 0

Soil Description Yellowish
brown (10YR 5/6)
fine SAND and silt

3 HS 0

Soil Description Same
as 2

10 feet

4 HS 0

Soil Description Same
as 2

5 HS 0

Soil Description Same
as 2

6 HS 0

Soil Description Same
as 2

0 feet

7 HS 0

Soil Description Same
as 2

8 HS 0

Soil Description Same
as 2

9 HS 0

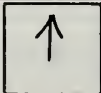
Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-18

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GLH

SAMPLER(S): RP/JD DATE: 3/18/98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1045 (0-6") Sample ID: BGLHAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description Dark
Yellowish brown
(10YR 3/6) organic
Soil

② HS 0

Soil Description Dark
Yellowish brown
(10YR 4/4) med SAND,
and organic Soil

③ HS 0

Soil Description Dark
Brown (10YR 3/3)
organic Soil

10 feet

④ HS 0

Soil Description Dark
Yellowish brown
(10YR 3/4) SAND
and Organic Soil

⑤ HS 0

Soil Description Very
dark grayish
brown (10YR 3/2)
Organic Soil

⑥ HS 0

Soil Description Same
as 2

0 feet

⑦ HS 0

Soil Description Very
dark grayish brown
(10YR 3/2) fine SAND
and Organic Soil

⑧ HS 0

Soil Description Very
dark brown (10YR
2/2) organic Soil

⑨ HS 0

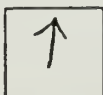
Soil Description Dark
Yellowish brown
(10YR 4/6) fine SAND
and organic Soil

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GLG

SAMPLER(S): RP/BG DATE: _____ (0-6") 4-13-78 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1430 (18-24") BGLGBA (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS -

Soil Description Light
brown fine to med.
SAND, trace silt and
gravel

② HS -

Soil Description No
Sample

③ HS -

Soil Description Same
as 1

10 feet

④ HS -

Soil Description No
Sample

⑤ HS -

Soil Description light
brown medium
SAND

⑥ HS -

Soil Description Same
as 5

0 feet

⑦ HS -

Soil Description Same
as 5

⑧ HS -

Soil Description light
brown fine to
medium SAND, trace
gravel

⑨ HS -

Soil Description Brown
fine to med. SAND,
some silt, trace
gravel

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: LP-18

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: E4

SAMPLER(S): F. Esquivel

DATE: 1-27-98 (0-6")

(18-24")

REMARKS: J. Ferranti K. Avelar

Sample Time: 1445 (0-6")

Sample ID: 36L 6AA (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 5

10 feet

☒ HS 0.0

☒ HS 0.0

☒ HS 0.0

Soil Description: 10YR3/3

Soil Description: 10YR3/3

Soil Description: 10YR3/3

Dark Brown w/Black
(org) Fine Sands

Dark Br. w/Black Dark Br. w/Black
Fine Sands (org.) Fine Sands (org.)

10 feet

☒ HS 0.0

☒ HS 0.0

☒ HS 0.0

Soil Description: 10YR3/3

Soil Description: 10YR3/3

Soil Description: 10YR3/3

DK. Brown w/Black DK. Brown w/Black DK. Brown w/Black
(org) Fine Sands Fine Sands (org.) Fine Sands (org.)

0 feet

☒ HS 0.0

☒ HS 0.0

☒ HS 0.0

Soil Description: 5YR3/3

Soil Description: 5YR3/3

Soil Description: 5YR3/3

Dark Reddish Brown
Fine Sands w/Pebbles

DK. Reddish Br.
Fine Sands w/
PEBBLES

DK. Reddish Br.
Fine Sands w/
PEBBLES

0 feet

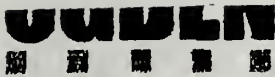
10 feet

10 feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: 18

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GLF

SAMPLER(S): RP/JD

DATE: (0-6")

3.24.98 (18-24")

REMARKS:

Sample Time: (0-6")
(18-24")

Sample ID: (0-6")
BGLFBA (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0

Soil Description: 10yr 5/6
yellowish brown fine
SAND some silt

② HS 0

Soil Description:
Same as 1

③ HS 0

Soil Description: 10yr 3/2
very dark grayish brown
fine SAND & SILT

10 feet

④ HS 0

Soil Description: 10yr 5/6
yellowish brown
fine SAND, some
silt.

⑤ HS 0

Soil Description:
Same as 4.

⑥ HS 0

Soil Description:
Same as 4.

0 feet

⑦ HS 0

Soil Description: 10yr 3/3
dark brown
fine SAND, trace silt.

⑧ HS 0

Soil Description: 10yr 4/2
d/grayish brown
fine SAND & SILT.

⑨ HS 0

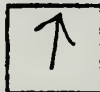
Soil Description: 10yr 5/4
yellowish brown
fine SAND, some
silt.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

UGDEN

Hand Auger Log

AREA: GP-18PROJECT NAME: MMRPROJECT NUMBER: 313000103GRID ID: FSAMPLER(S): ED, FE, + JFDATE: 1-27-98 (0-6")

(18-24")

REMARKS: _____

Sample Time: 1545 (0-6")Sample ID: BGLFAA (0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: 510 feet④ HS 0.0⑤ HS 0.0③ HS 0.0Soil Description: 10YR2/1Soil Description: 10YR2/1Soil Description: 10YR2/2BLACKBLACKVERY DK. BROWNFINE SAND (ORG)FINE SAND (ORG)FINE SAND (ORG)10 feet④ HS 0.0⑤ HS 0.0⑥ HS 0.0Soil Description: 10YR2/1Soil Description: 5YR3/3Soil Description: 10YR2/2BLACKDK REDDISH BR W/ BL. VERY DK. BR.FINE SAND (ORG)FINE SAND (W/ORG)FINE SAND (W/ORG)

0 feet

④ HS 0.0⑧ HS 0.0⑦ HS 0.0Soil Description: 10YR2/1Soil Description: 7.5YR2.5/3Soil Description: 10YR2/2BLACKVERY DK. BROWNVERY DK. BROWNFINE SAND (ORG)FINE SANDFINE SAND (W/ORG)

0 feet

10 feet

feet

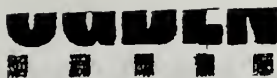
10 feet

feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: WP14

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GLE

SAMPLER(S): RP/JO

DATE: _____ (0-6") _____ (18-24")

3/24/98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") _____ (18-24")

Sample ID: _____ (0-6") BGLEBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS _____

Soil Description: No Sample

② HS _____

Soil Description: No Sample

③ HS 0

Soil Description: 10YR 5/4
yellowish brown coarse
SAND, some m to f
gravel,

10 feet

④ HS _____

Soil Description: 10YR 6/4 No Sample

⑤ HS 0

Soil Description: 10YR 6/4
yellowish brown coarse
sand w/some gravel

⑥ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
coarse sand w/some gravel

0 feet

⑦ HS 0

Soil Description: 10YR 5/4
yellowish brown coarse
sand

⑧ HS 0

Soil Description: 10YR 3/2
very d/ grayish brown
c to m SAND +
gravel.

⑨ HS _____

Soil Description: NO
SAMPLE

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-18

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: D

SAMPLER(S): KD, FE, JF DATE: 1-23-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1245 (0-6") Sample ID: BGLDAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Dark
Yellowish brown
(10YR 4/4) med SAND



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Brown
(10YR 4/3) medium
SAND



HS 0.0

Soil Description Same
as 4



HS 0.0

Soil Description Same
as 4

0 feet



HS 0.0

Soil Description Same
as 4



HS 0.0

Soil Description Same
as 4



HS 0.0

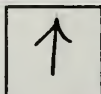
Soil Description Same
as 4

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-18

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GLD

SAMPLER(S): 1cm/50

DATE: _____ (0-6")

3-13-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1415 (18-24")

Sample ID: _____ (0-6")
BGL 034 (18-24")

VOC grab sample was collected from boring: 9

	10 feet	① HS <u>0</u> Soil Description: <u>10 YR 3/4</u> <u>dark Yellowish Brown</u>	② HS <u>0</u> Soil Description: <u>same as 6</u>	③ HS <u>0</u> Soil Description: <u>5 YR 5/8</u> <u>Yellowish red fine</u> <u>sand w/ some gravel</u>
	10 feet	④ HS <u>0</u> Soil Description: _____ <u>same as 7</u>	⑤ HS <u>0.5</u> Soil Description: <u>same</u> <u>as 6</u>	⑥ HS <u>0</u> Soil Description: <u>10 YR 3/4</u> <u>dark yellowish brown</u> <u>fine sand some silt</u>
	0 feet	⑦ HS <u>0</u> Soil Description: <u>10 YR 6/8</u> <u>Yellowish brown sand</u> <u>some silt & gravel</u>	⑧ HS <u>0</u> Soil Description: <u>5 YR</u> <u>5/8 yellowish red</u> <u>fine sand</u>	⑨ HS <u>1</u> Soil Description: <u>same as</u> <u>8</u>
0 feet		10 feet	10 feet	

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GLL

SAMPLER(S): KM/RP/JD DATE: _____ (0-6") 3/14/98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
0810 (18-24")

Sample ID: _____ (0-6")
BGLCBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description Yellowish
brown (10YR 5/8)
Very fine SAND,
Some silt

② HS 0

Soil Description Brownish
Yellow (10YR 6/8)
fine SAND, some
Gravel

③ HS 0

Soil Description Yellowish
brown (10YR 5/6)
med SAND, some gravel

10 feet

④ HS 0

Soil Description Brownish
Yellow (10YR 6/8)
med SAND, some
fine SAND and Gravel

⑤ HS 0

Soil Description Brownish
Yellow (10YR 6/8)
med SAND, some
fine SAND

⑥ HS 0

Soil Description Brownish
Yellow (10YR 6/6)
med SAND, some
gravel

0 feet

⑦ HS 0

Soil Description Brownish
Yellow (10YR 6/8)
fine SAND, some
gravel

⑧ HS 0

Soil Description Dark
Yellowish brown (10YR
4/4) med to CS SAND,
Some gravel

⑨ HS 0

Soil Description Yellowish
Red (5YR 5/8)
CS SAND, some gravel

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: C
 SAMPLER(S): KD, FE, + JF DATE: 1-23-98 (0-6") (18-24")
 REMARKS: COLLECTED MSMSD

Sample Time: 1050 (0-6") Sample ID: BGLCAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet (1) HS 0.0 (2) HS 0.0 (3) HS 0.0
 Soil Description: 10YR 4/3 BROWN Soil Description: SEE #1 Soil Description: SEE #1
MEDIUM SAND w/ PEBBLES

10 feet (4) HS 0.0 (5) HS 0.0 (6) HS 0.0
 Soil Description: SEE #1 Soil Description: 10YR 4/6 DARK YELLOWISH BR. SEE #1 Soil Description: SEE #1
FINE-MEDIUM SAND

0 feet (7) HS 0.0 (8) HS 0.0 (9) HS 0.0
 Soil Description: SEE #1 Soil Description: SEE #1 Soil Description: SEE #1

0 feet 10 feet 10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-18

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GLB

SAMPLER(S): WG/KM DATE: _____ (0-6") 3-13-98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1245 (18-24") BGLBBA (18-24")

VOC grab sample was collected from boring: 1

10 feet



HS 0.2

Soil Description Yellowish
brown (10 YR 5/6)
fine SAND, some SILT
gravel, and cobbles



HS 0

Soil Description Same
as 1



HS —

Soil Description No
Sample

10 feet



HS 0

Soil Description Same
as 1



HS —

Soil Description No
Sample



HS 0

Soil Description Brownish
Yellow (10 YR 6/8)
fine SAND, some
Silt and Gravel

0 feet



HS 0

Soil Description Same
as 6



HS 0

Soil Description Same
as 6



HS 0

Soil Description Same
as 6

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: B

SAMPLER(S): KD, FE, + IF DATE: 1-23-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0950 (0-6") (18-24")

Sample ID: BGLBAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 10YR4/3
BROWN
MEDIUM SAND

Soil Description: 10YR3/2
Very Dk. Greyish Br.
MEDIUM SAND

Soil Description: 10YR4/3
BROWN
FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: 10YR4/3
BROWN
MEDIUM SAND

Soil Description: 10YR3/2
Very Dk. Greyish Br.
MEDIUM SAND

Soil Description: 10YR4/3
BROWN
FINE SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: 10YR3/3
DARK BROWN
MEDIUM SAND

Soil Description: 10YR3/1
VERY DARK GREY
MEDIUM SAND

Soil Description: 10YR4/3
BROWN
MEDIUM SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-18

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GCA

SAMPLER(S): WG/KM

DATE: _____ (0-6")

3-13-88 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1130P (18-24")

Sample ID: _____ (0-6")
BGLABA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: Yellowish
brown (10YR 5/6) fine
SAND, some silt and gravel
with cobbles

② HS 0

Soil Description: _____
See 1

③ HS 0

Soil Description: _____
See 1

10 feet

④ HS 0

Soil Description: brownish
yellow (10YR 6/6) fine
SAND, some gravel and
cobbles

⑤ HS 0

Soil Description: See 1

⑥ HS 0

Soil Description: See 1

0 feet

⑦ HS 0

Soil Description: See 4

⑧ HS 0

Soil Description: See 4

⑨ HS 0

Soil Description: See 4

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: A

SAMPLER(S): KD, FE + JF

DATE: 1-23-98 (0-6")

(18-24")

REMARKS:

Sample Time: 0920 (0-6")
(18-24")

Sample ID: BGLAAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: LO4R3/2 Soil Description: LO4R3/2 Soil Description: LO4R3/2
Very Dk. Greyish Br. Very Dk. Greyish Br. Very Dk. Greyish Br.
Very Fine - Very Fine - Very Fine -
FINE SAND FINE SAND FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: LO4R4/3 Soil Description: LO4R4/3 Soil Description: LO4R4/4
Brown Brown Dk. Yellowish Br
Very Fine - Fine Sand - Fine Sand -
FINE SAND VERY FINE SAND VERY FINE SAND

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

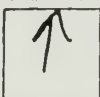
Soil Description: LO4R4/3 Soil Description: LO4R4/3 Soil Description: LO4R4/3
Brown Brown Brown
Very Fine - Very Fine - Very Fine -
FINE SAND FINE SAND FINE SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-16

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHO

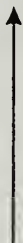
SAMPLER(S): W.G. DATE: 4/27/98 (0-6") (18-24")

REMARKS: Refused in borehole #1

Sample Time: 1630 (0-6") (18-24") Sample ID: BGHOBA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



① HS -

Soil Description No

sample

② HS -

Soil Description Yellowish

brown (10YR 5/8)

fine SAND, some
silt and cobbles

③ HS -

Soil Description Same

as 2

10 feet



④ HS -

Soil Description Same

as 2

⑤ HS -

Soil Description Same

as 2

⑥ HS -

Soil Description Same

as 2

0 feet

⑦ HS -

Soil Description Same

as 2

⑧ HS -

Soil Description Same

as 2

⑨ HS -

Soil Description Same

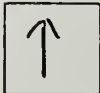
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-16

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHO

SAMPLER(S): WG DATE: 4-27-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 1530 (0-6") Sample ID: BGHCAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet



① HS -

Soil Description Dark

yellowish brown

(10 YR 4/6) fine SAND,
Some gravel, trace
Silt

② HS -

Soil Description Same

as 1

③ HS -

Soil Description Same

as 1

10 feet



④ HS -

Soil Description Same

as 1

⑤ HS -

Soil Description Same

as 1

⑥ HS -

Soil Description Same

as 1

0 feet

⑦ HS -

Soil Description Same

as 1

⑧ HS -

Soil Description Same

as 1

⑨ HS -

Soil Description Same

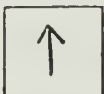
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-16

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103

GRID ID: GHO

SAMPLER(S): KD, FE, JF DATE: 2-6-98 (0-6") (18-24")

REMARKS: Control Grid

Sample Time: 0830 (0-6") (18-24")

Sample ID: BGHOAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Dark
brown (7.5 YR 3/3)
Very fine to fine
SAND



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

10 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /

0 feet



HS 0.0

Soil Description Same
as /



HS 0.0

Soil Description Same
as /



HS 0.0

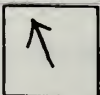
Soil Description Same
as /

0 feet

10 feet

10 feet

NORTH

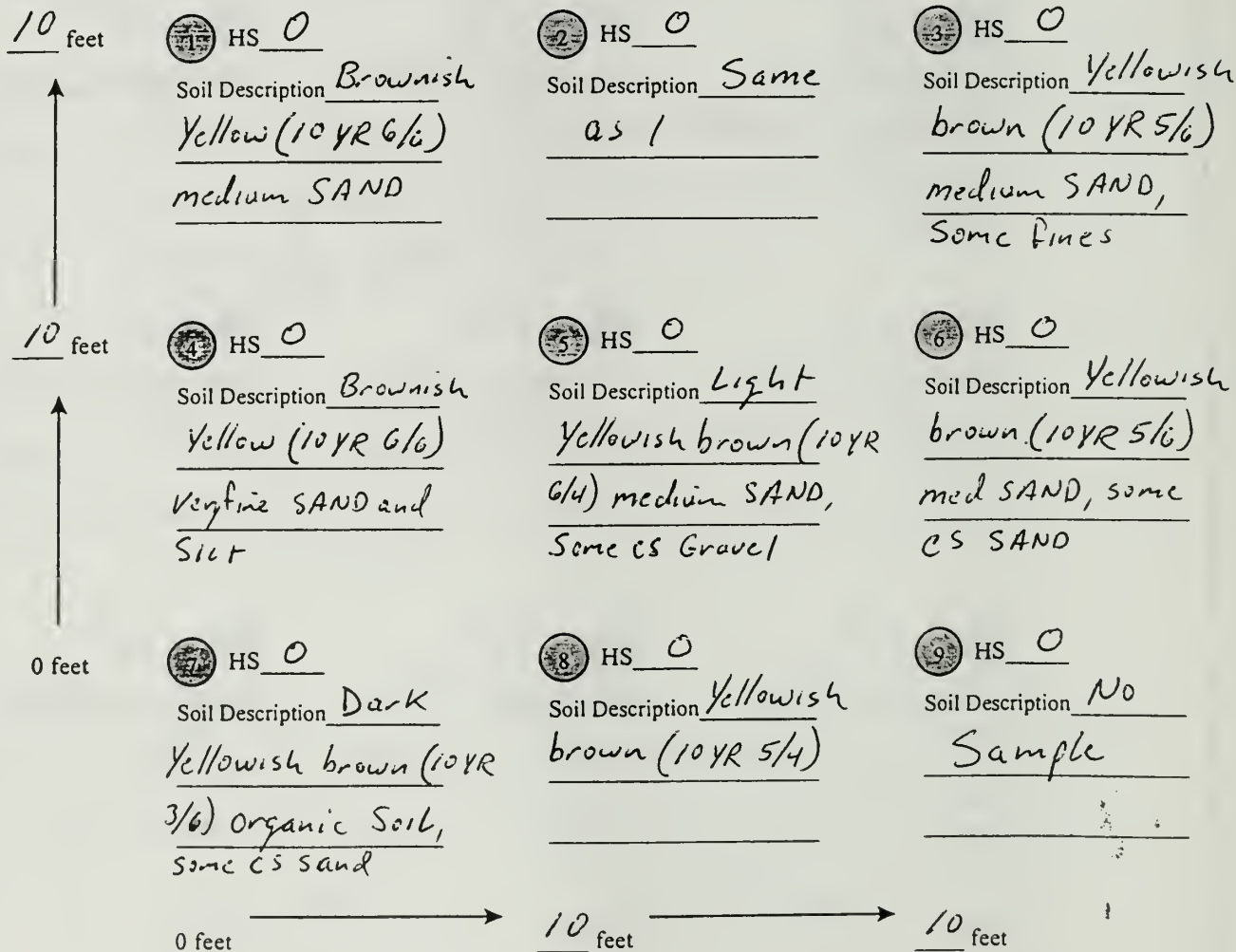


HS=Headspace PPM (0-6")

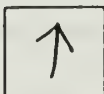
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHN
 SAMPLER(S): RP/JD DATE: 3-20-98 (0-6") (18-24")
 REMARKS: _____

Sample Time: 10:00 (0-6") (18-24") Sample ID: BGHNBA (0-6") (18-24")

VOC grab sample was collected from boring: _____



NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: BHN
 SAMPLER(S): KD, FE, + JF DATE: 2-6-98 (0-6") (18-24")
 REMARKS: CONTROL GRID

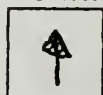
Sample Time: 0930 (0-6") Sample ID: BGHNAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet	① HS <u>0.0</u> Soil Description: <u>10y23/3</u> <u>DARK BROWN</u> <u>VERY FINE -</u> <u>FINE SAND</u>	② HS <u>0.0</u> Soil Description: <u>10y23/3</u> <u>DARK BROWN</u> <u>FINE SAND</u> <u>VERY FINE SAND</u>	③ HS <u>0.0</u> Soil Description: <u>10y23/3</u> <u>DARK BROWN</u> <u>VERY FINE -</u> <u>FINE SAND</u>
10 feet	④ HS <u>0.0</u> Soil Description: <u>10y24/4</u> <u>DK. YELLOWISH</u> <u>BROWN - FINE SAND</u>	⑤ HS <u>0.0</u> Soil Description: <u>10y24/4</u> <u>DK. YELLOWISH</u> <u>FINE SAND</u>	⑥ HS <u>0.0</u> Soil Description: <u>10y24/4</u> <u>DK. YELLOWISH</u> <u>FINE SAND</u>
0 feet	⑦ HS <u>0.0</u> Soil Description: <u>10y23/2</u> <u>VERY DK. GREYISH</u> <u>BROWN - VERY</u> <u>FINE SAND</u>	⑧ HS <u>0.0</u> Soil Description: <u>10y23/3</u> <u>DARK BROWN</u> <u>VERY FINE -</u> <u>FINE SAND</u>	⑨ HS <u>0.0</u> Soil Description: <u>10y24/4</u> <u>DK. YELLOWISH</u> <u>FINE SAND</u>

0 feet → 10 feet → 10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: G-HM

SAMPLER(S): RP/SD

DATE: (0-6") 3/16/95 (18-24")

REMARKS:

Sample Time: (0-6")
2 1440 (18-24")

Sample ID: (0-6")
B6-HM BA (18-24")

VOC grab sample was collected from boring: 1-HM

10 feet

① HS 0

Soil Description: 10 YR 6/5
reddish yellow
fine sand w/ some silt

② HS 0

Soil Description: 10 YR 6/5
brownish yellow fine
sand & silt

③ HS 0

Soil Description: 10 YR 5/5
yellowish brown
fine sand & silt

10 feet

④ HS 0

Soil Description: 10 YR 6/5
brownish yellow v. fine
sand w/ silt

⑤ HS 0

Soil Description: 10 YR 5/6
yellowish brown v. fine
sand w/ some silt

⑥ HS 0

Soil Description: 10 YR 6/5
brownish yellow v. fine
sand w/ some silt

0 feet

⑦ HS 0

Soil Description: 10 YR 5/5
yellowish brown v. fine
sand & silt

⑧ HS 0

Soil Description: 10 YR 6/5
brownish yellow v. fine
sand & silt

⑨ HS 0

Soil Description: 10 YR 6/5
brownish yellow v. fine
sand & silt

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 6A16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: M

SAMPLER(S): F. Escobar

DATE: 1-11-98 (0-6")

(18-24")

REMARKS: J. Ferranti K. Adorno

Sample Time: 1100 (0-6")
(18-24")

Sample ID: BGHMAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0
5

Soil Description: SYR3/1

VERY DARK GREY
VERY FINE
SILTY SAND

② HS 0.0
5

Soil Description: SYR3/1

VERY DARK GREY
VERY FINE
SILTY SAND

③ HS 0.0
5

Soil Description: SYR3/1

VERY DARK GREY
VERY FINE
SILTY SAND

10 feet

④ HS 0.0
5

Soil Description: 7.5 YR 4/6

Shag Brown
VERY FINE
SILTY SAND

⑤ HS 0.0
5

Soil Description: SYR 3/1

V. DAK Gray fine
Sands w/ Silt

⑥ HS 0.0
5

Soil Description: SYR3/1

VERY DARK GREY
VERY FINE
SILTY SAND

0 feet

⑦ HS 0.0
5

Soil Description: 7.5 YR 3/2

Dark Brown
VERY FINE
SILTY SAND

⑧ HS 0.0
5

Soil Description: SYR3/1

VERY DARK GREY
VERY FINE
SILTY SAND

⑨ HS 0.0
5

Soil Description: 7.5 YR 4/6

Shag Brown
VERY FINE
SILTY SAND

0 feet

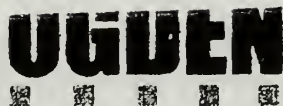
10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-6
16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GHL

SAMPLER(S): JD/RP/KM

DATE: 3-16-98 (0-6") (18-24")

REMARKS:

Sample Time: 1130 (0-6") (18-24")

Sample ID: BGHLB4 (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10 YR 7/4
very pale brown fine
sand

② HS 0

Soil Description: 10 YR 6/6
brownish yellow fine
sand

③ HS 0

Soil Description: 10 YR 4/4
light yellowish brown v. fine
sand w/ some silt

10 feet

④ HS 0

Soil Description: 10 YR 6/6
brownish yellow v. fine
sand w/ some silt

⑤ HS 0

Soil Description: 10 YR 6/6
brownish yellow v. fine
sand w/ some silt

⑥ HS 0

Soil Description: 10 YR 6/4
light yellowish brown
fine sand w/ some silt

0 feet

⑦ HS 0

Soil Description: 10 YR 5/5
yellowish brown fine
sand w/ some silt

⑧ HS 0

Soil Description: 10 YR 6/6
brownish yellow fine
sand

⑨ HS 0

Soil Description: 10 YR 5/5
yellowish brown
fine sand w/ some silt

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: GP16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: L

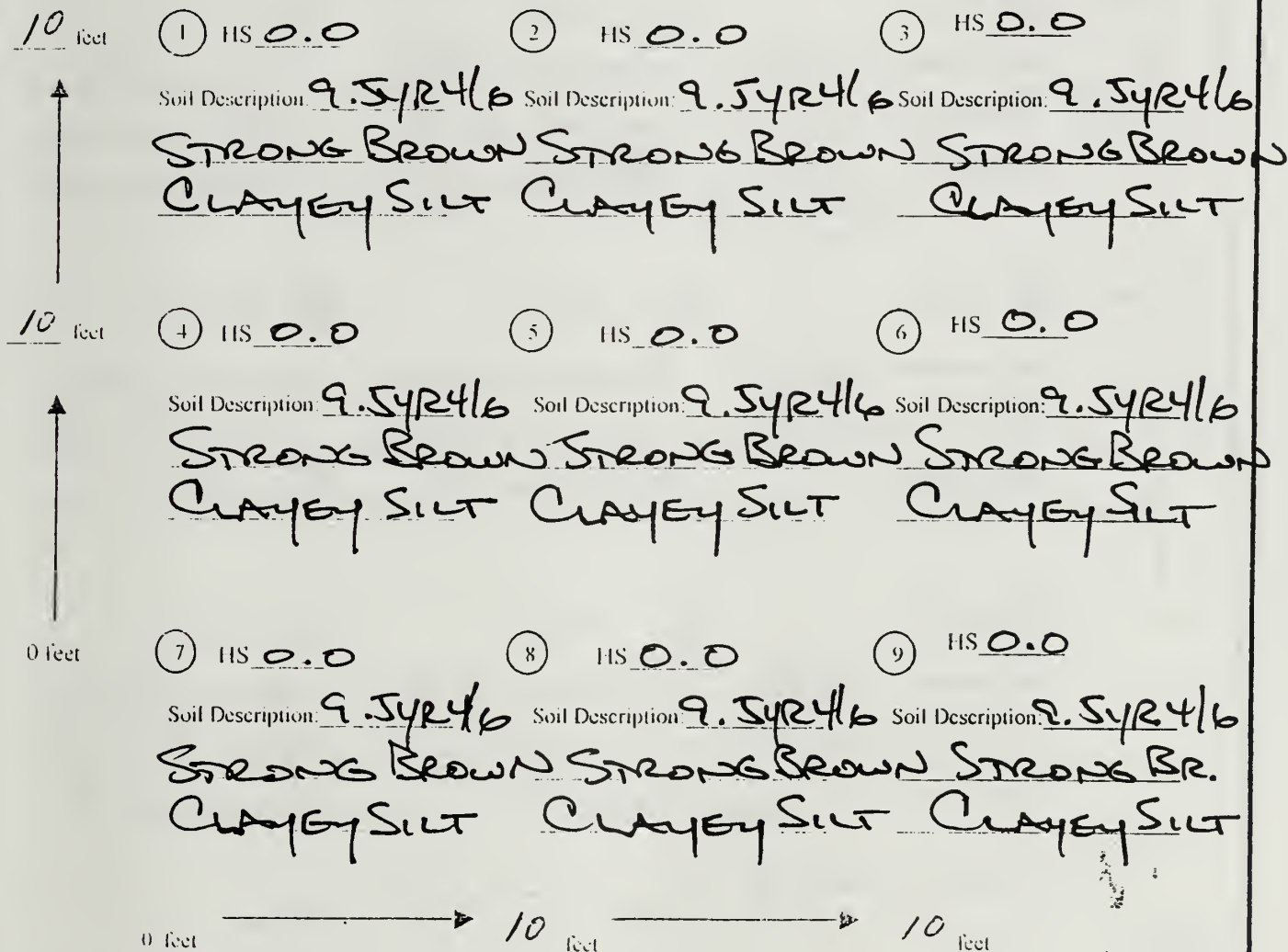
SAMPLER(S): FE, KD, & IF DATE: 1-22-98 (0-6") (18-24")

REMARKS:

Sample Time: 1000 (0-6") (18-24")

Sample ID: BGHLAA (0-6") (18-24")

VOC grab sample was collected from boring: 5



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: ^{GP-} 110

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: 64K

SAMPLER(S): 1M/RP/511

DATE: 3/16/98 (0-6")

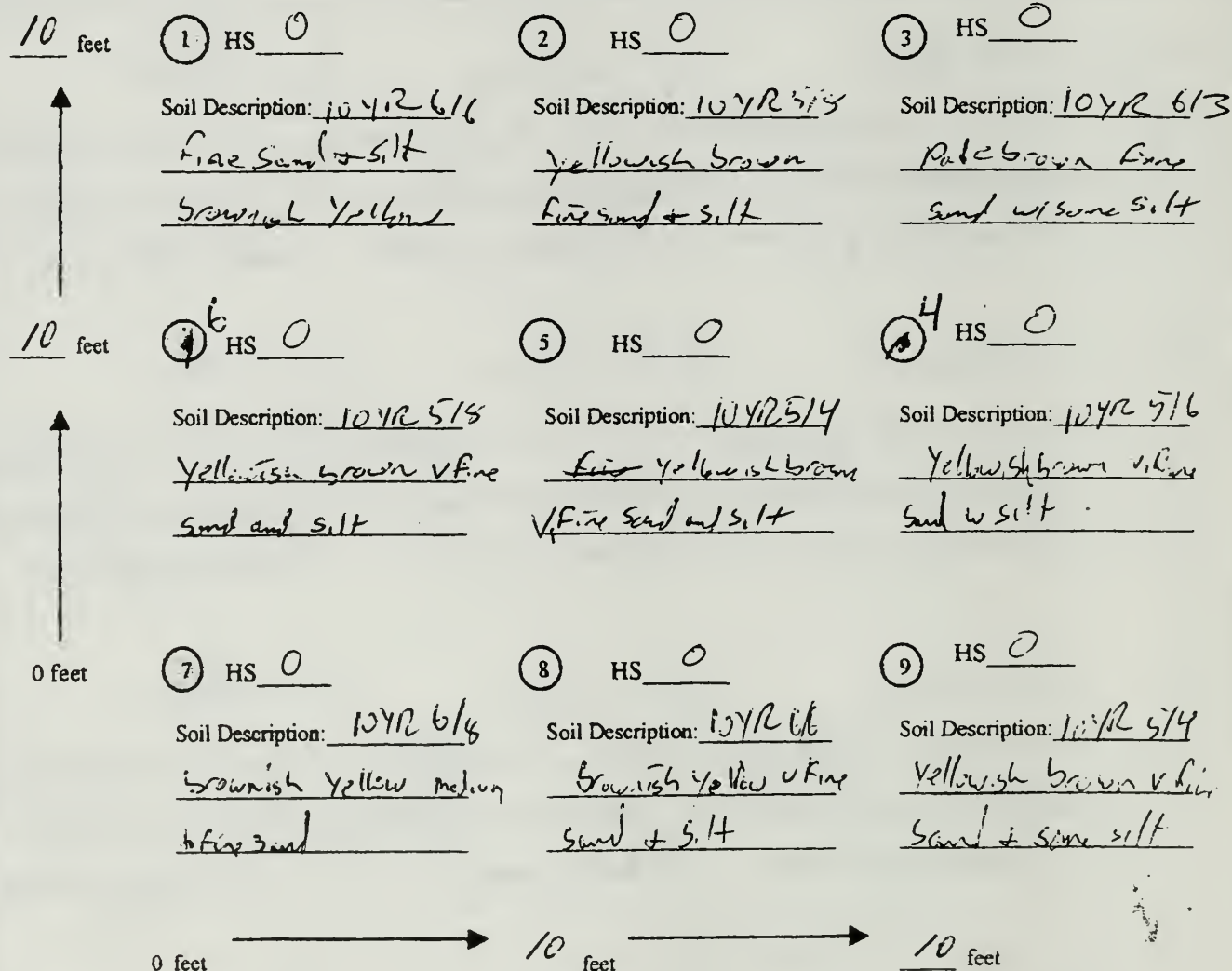
3/16/98 (18-24")

REMARKS:

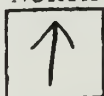
Sample Time: (0-6")
1140 (18-24")

Sample ID: 64KBA (0-6")
↓ (18-24")

VOC grab sample was collected from boring: _____



NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: GA-16

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: K
SAMPLER(S): F. Ferrante DATE: 1-22-98 (0-6") (18-24")
REMARKS: J. Ferrante K. Daddario

Sample Time: 1030 (0-6") Sample ID: B64KAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0② HS 0.0③ HS 2.0

Soil Description 2.5Y 4/3
Olive brown fine
Sands w/ Pebble Incls.

Soil Description 2.5Y 4/3
Olive brown fine
Sands w/ Pebble Inclusions

Soil Description: 10R 4/3
Brown fine Sands

10 feet

④ HS 0.0⑤ HS 2.0⑥ HS 2.0

Soil Description 2.5Y 4/3
OLIVE BROWN
FINE SAND

Soil Description 2.5Y 4/3
OLIVE BROWN
FINE SAND

Soil Description: 2.5Y 4/3
OLIVE BROWN
FINE SAND

0 feet

⑦ HS 0.0⑧ HS 0.0⑨ HS 0.0

Soil Description 2.5Y 4/3
OLIVE BROWN
FINE SAND

Soil Description 2.5Y 4/3
OLIVE BROWN
FINE SAND

Soil Description: 2.5Y 4/3
OLIVE BROWN
FINE SAND

0 feet

10 feet

10 feet

NORTH

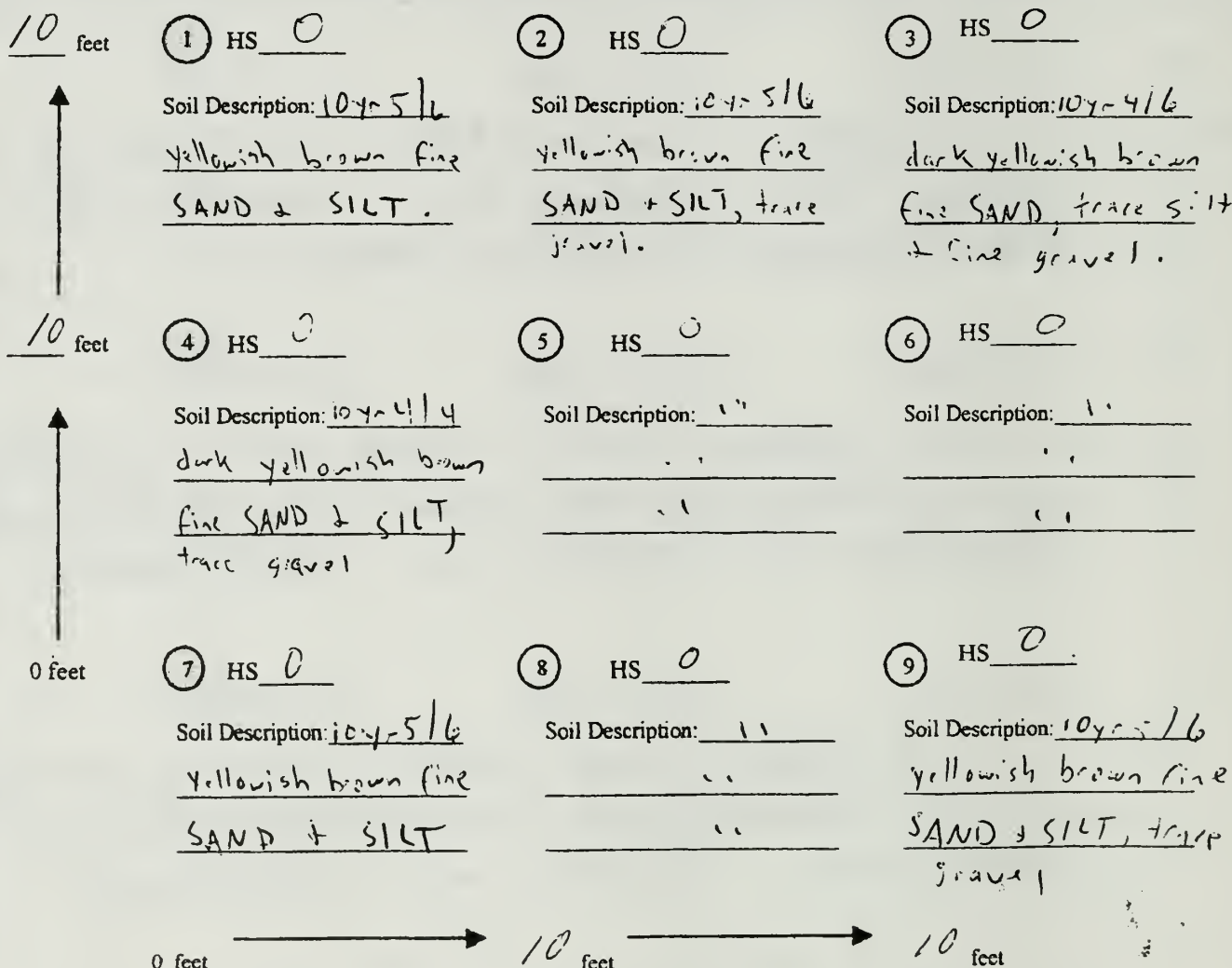


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: GHS
 SAMPLER(S): BP/SP/KM DATE: N/A (0-6") 3/16/93 (18-24")
 REMARKS:

Sample Time: (0-6") Sample ID: (0-6")
 1415 (18-24") BGHSBA (18-24")

VOC grab sample was collected from boring:



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: GP-16PROJECT NAME: MMRPROJECT NUMBER: 313000103GRID ID: JSAMPLER(S): KD, FE + JFDATE: 1-22-98 (0-6")

(18-24")

REMARKS: MSMSDSample Time: 1305 (0-6")
(18-24")Sample ID: BGHJAA (0-6")
(18-24")VOC grab sample was collected from boring: 5

10 feet

④ HS 0.0② HS 0.0③ HS 0.0Soil Description: 10YR4/4Soil Description: 10YR4/4Soil Description: 10YR3/3

DK Yellowish Br. DK Yellowish Br. DARK BROWN
VERY FINE SILTY SAND VERY FINE VERY FINE
SILTY SAND SILTY SAND SILTY SAND

10 feet

④ HS 0.0② HS 0.9 ppm⑥ HS 0.0Soil Description: 10YR4/4Soil Description: 10YR4/4Soil Description: 10YR3/3

DK Yellowish Br. DK Yellowish Br. DARK BROWN
VERY FINE VERY FINE VERY FINE
SILTY SAND SILTY SAND SILTY SAND

0 feet

② HS 0.0② HS 0.0② HS 0.0Soil Description: 10YR4/4Soil Description: 10YR4/4Soil Description: 10YR4/4

DK Yellowish Br. DK Yellowish Br. DK Yellowish Br.
VERY FINE VERY FINE VERY FINE
SILTY SAND SILTY SAND SILTY SAND

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-16

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHI
SAMPLER(S): RP/JD DATE: 3/16/98 (0-6") (18-24")
REMARKS: Obstruction in boreholes 2, 3, 4, 5, 6

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
_____ (18-24") BGHI BA (18-24")

VOC grab sample was collected from boring: _____

10 feet



HS 0

Soil Description Yellowish
brown (10YR 5/8)
fine SAND and
organic SOIL



HS —

Soil Description No
Sample



HS —

Soil Description No
Sample

10 feet



HS 0

Soil Description Brownish
Yellow (10YR) fine
SAND, some SILT



HS 0

Soil Description Yellowish
brown (10YR 5/8)
very fine SAND
some SILT



HS —

Soil Description No
Sample

0 feet



HS 0

Soil Description Brownish
Yellow (10YR 6/8)
fine SAND, some silt



HS 0

Soil Description Brownish
Yellow (10YR 6/6)
fine SAND, some silt



HS —

Soil Description No
Sample

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: I

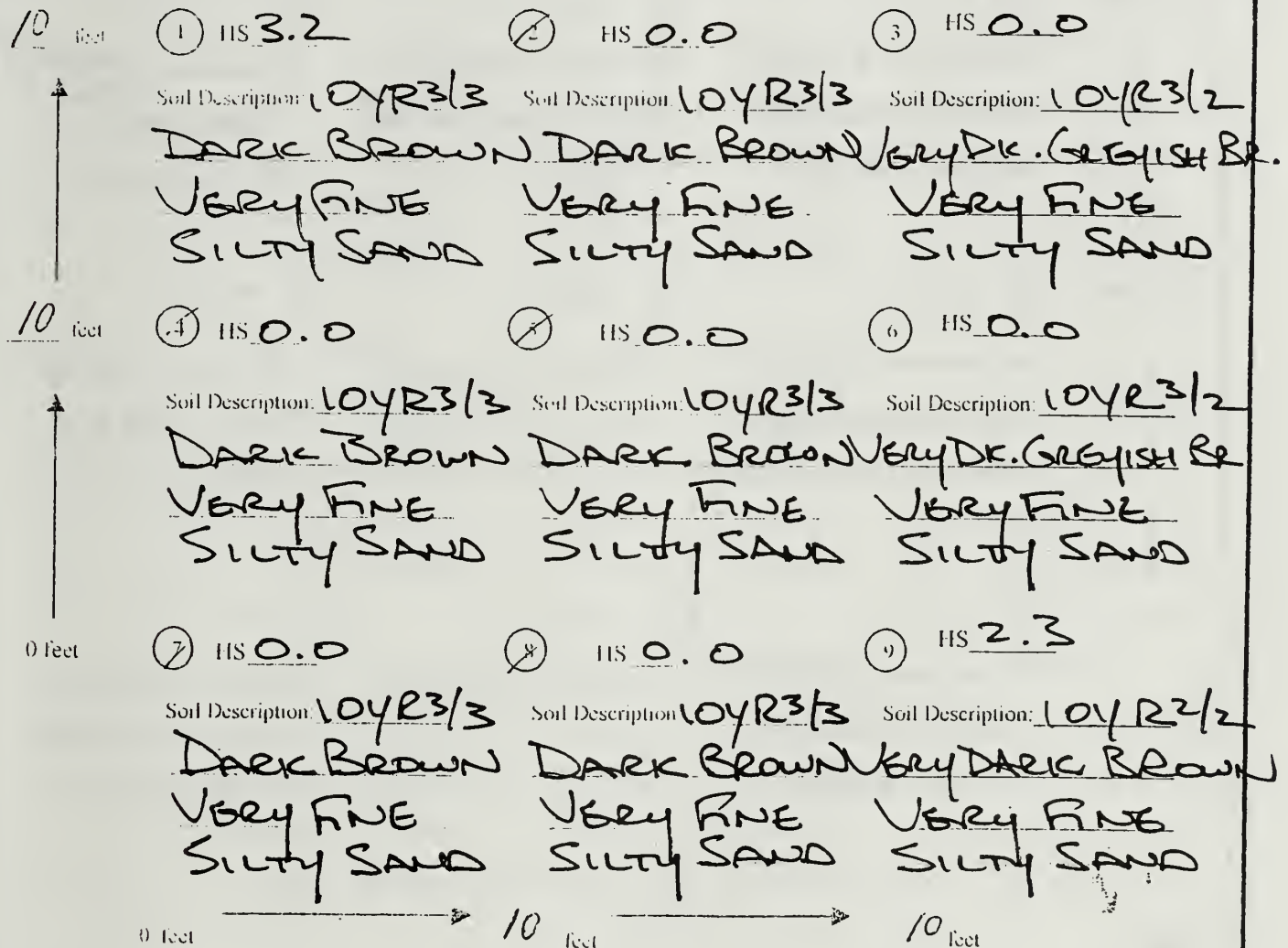
SAMPLER(S): KD, FE, + JF DATE: 1-22-98 (0-6") (18-24")

REMARKS:

Sample Time: 1415 (0-6") (18-24")

Sample ID: BG+IAA (0-6") (18-24")

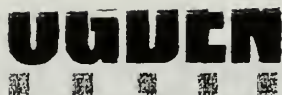
VOC grab sample was collected from boring ~~3~~ 1



NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: 16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: G4H

SAMPLER(S): RP/KM/JD

DATE: (0-6")

3-17-98 (18-24")

REMARKS:

Sample Time: (0-6")
(18-24")

Sample ID: (0-6")
B64HBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: WYR 5/6
yellowish brown fine
sand w some silt

② HS 0

Soil Description: WYR 6/3
pale brown fine sand
w some silt

③ HS 0

Soil Description: WYR 5/6
Same as 2
Same as 2

10 feet

④ HS 0

Soil Description: WYR 6/4
light yellowish brown
fine sand w some silt

⑤ HS 0

Soil Description: Same as 2

⑥ HS 0

Soil Description: WYR 5/3
brown fine sand
w some silt

0 feet

⑦ HS 0

Soil Description: WYR 5/4
yellowish brown fine
sand w some silt

⑧ HS 0

Soil Description: Same as 2
1

⑨ HS 0

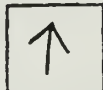
Soil Description: WYR 6/6
brownish yellow fine
sand w some silt

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

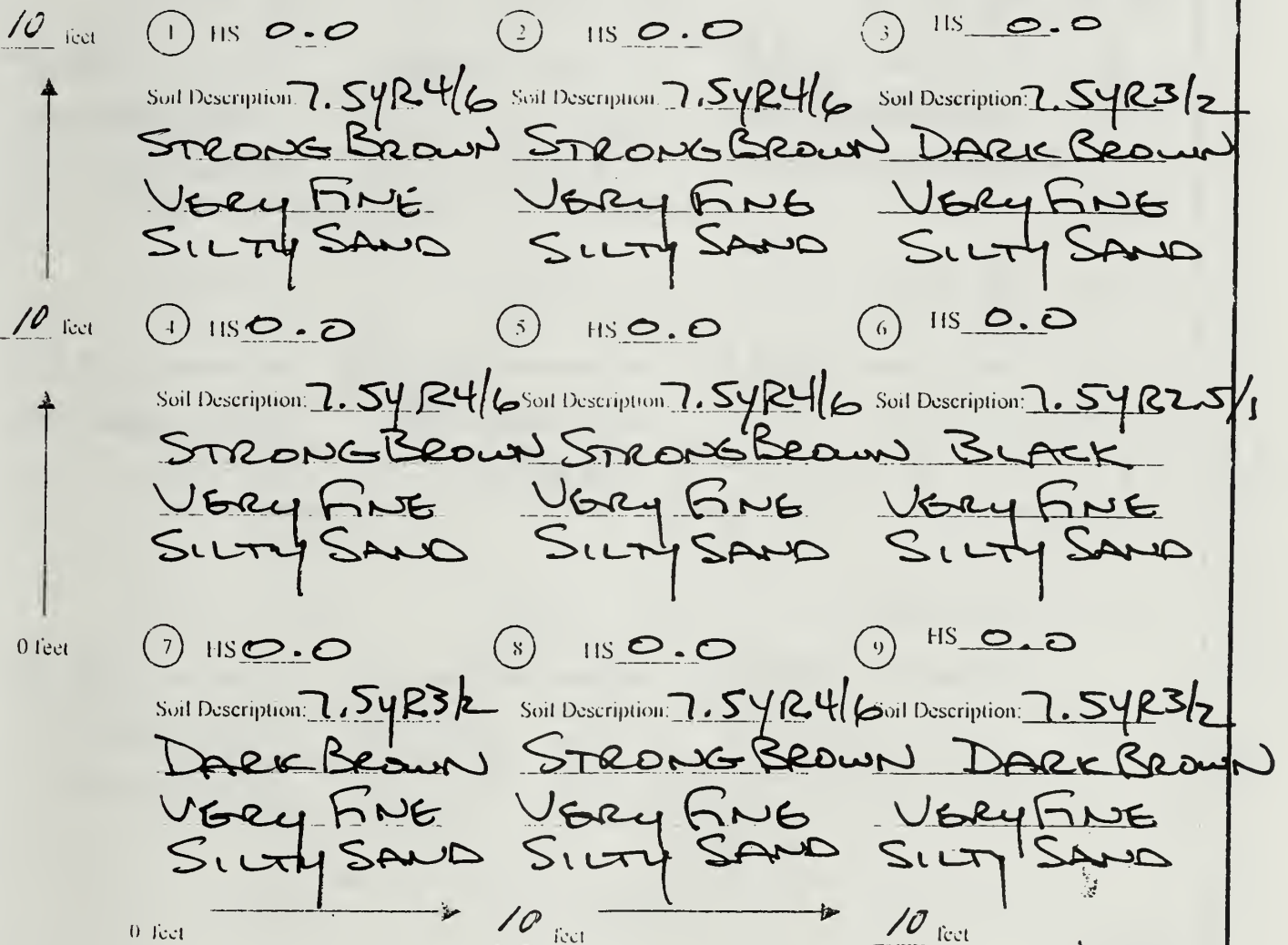
Hand Auger Log

AREA: GP 16

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: H
SAMPLER(S): KD, FE, + JF DATE: 1-22-98 (0-6") (18-24")
REMARKS:

Sample Time: 1345 (0-6") Sample ID: BGHHAA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5



NORTH



HIS=Headspace PPM (0-6")



Hand Auger Log

AREA:

GP-
16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GHG

SAMPLER(S): JD/KM

DATE: N/A

(0-6")

3-17-98 (18-24")

REMARKS:

Sample Time:

(0-6")

Sample ID:

(0-6")

0820

(18-24")

64HGBF

(18-24")

VOC grab sample was collected from boring:

10 feet

① HS ϕ Soil Description: 10 YR 6/4
light yellowish brown
fine sand & silt② HS ϕ

Soil Description: Same as 1

③ HS ϕ Soil Description: 10 YR 6/4
light yellowish brown
fine sand & silt

10 feet

④ HS ϕ

Soil Description: Same as 1

⑤ HS ϕ Soil Description: 7.5 YR 5/6
strong brown fine
sand and silt⑥ HS ϕ Soil Description: 10 YR 6/8
brownish yellow fine
sand & silt

0 feet

⑦ HS ϕ

Soil Description: Same as 1

⑧ HS ϕ Soil Description: Same as
5.⑨ HS ϕ Soil Description: 10 YR 6/8
brownish yellow fine
sand w/ some silt

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

HS=1 leadspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHE GHF

SAMPLER(S): JD/KM/RP DATE: 3-17-98 (0-6") (18-24")

REMARKS: Grid Flaging is not in the correct order.

Sample Time: 1115 (0-6") (18-24")

Sample ID: BGHFBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet



① HS —
Soil Description Yellowish brown (10YR 5/6)
Fine SAND, some med to fine gravel.

② HS —
Soil Description Brownish yellow (10YR 6/6)
Fine SAND, trace silt and gravel

③ HS —
Soil Description Dark Yellowish brown (10YR 4/4)
Fine SAND and silt

10 feet



④ HS —
Soil Description Yellowish brown (10YR 5/6)
Fine SAND and silt, trace gravel

⑤ HS 0
Soil Description Same as 4.

⑥ HS —
Soil Description Brownish yellow (10YR 6/6)
Fine SAND and silt, trace fine Gravel

0 feet

⑦ HS —
Soil Description Dark Yellowish brown (10YR 4/4)
Fine SAND, trace silt and fine Gravel

⑧ HS —
Soil Description Yellowish brown (10YR 5/6)
Fine SAND, trace gravel

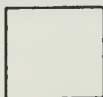
⑨ HS —
Soil Description Dark Yellowish brown (10YR 4/4)
Fine SAND and silt, some fine Gravel

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: F

SAMPLER(S): KD, FE₁ + JF DATE: 1-23-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0820 (0-6") (18-24")

Sample ID: BGH FAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0.0

② HS 0.0

③ HS 0.0

Soil Description: 2.5YR³/3

DARK BROWN

SAME

Soil Description: _____

SAME

VERY FINE SAND

10 feet

④ HS 0.0

⑤ HS 0.0

⑥ HS 0.0

Soil Description: _____

SAME

Soil Description: _____

SAME

Soil Description: _____

SAME

0 feet

⑦ HS 0.0

⑧ HS 0.0

⑨ HS 0.0

Soil Description: _____

SAME

Soil Description: _____

SAME

Soil Description: _____

SAME

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHE
 SAMPLER(S): RP/JD/KM DATE: _____ (0-6") 3/17/98 (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1050 (18-24") BGHEBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



HS 0

Soil Description Brownish

Yellow (10YR 6/6)

Very fine SAND and SILT



HS 0

Soil Description Light

Yellowish brown

(10YR 6/4) Very fine
SAND and SILT



HS 0

Soil Description Yellowish

brown (10YR 5/6)

fine SAND

10 feet



HS 0

Soil Description Same

as 1.



HS 0

Soil Description Brownish

Yellow (10YR 6/8)

Very fine SAND and
SILT



HS 0

Soil Description Yellowish

brown (10YR 5/8)

very fine SAND
and SILT

0 feet



HS 0

Soil Description Yellowish

brown (10YR 5/6)

Very fine SAND
and SILT



HS 0

Soil Description Same

as 1



HS 0

Soil Description Same

as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: GP 16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: E

SAMPLER(S): KD, FE, & JF DATE: 1-22-98 (0-6") (18-24")

REMARKS:

Sample Time: 1530 (1530)
(0-6") (18-24")

Sample ID: BGHEAA (0-6")
(18-24")

VOC grab sample was collected from boring: 5

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0

Soil Description: SYR2.5/2 Soil Description: SYR2.5/2 Soil Description: SYR2.5/2

DK. REDDISH BR. DK. REDDISH BR. DK. REDDISH BR.

VERY FINE VERY FINE VERY FINE
SILTY SAND SILTY SAND SILTY SAND

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0

Soil Description: SYR2.5/2 Soil Description: SYR2.5/2 Soil Description: SYR2.5/2

DK. REDDISH BR. DK. REDDISH BR. DK. REDDISH BR.

VERY FINE VERY FINE VERY FINE
SILTY SAND SILTY SAND SILTY SAND

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description: SYR2.5/2 Soil Description: SYR2.5/2 Soil Description: SYR2.5/2

DK. REDDISH BR. DK. REDDISH BR. DK. REDDISH BR.

VERY FINE VERY FINE VERY FINE
SILTY SAND SILTY SAND SILTY SAND

0 feet

10 feet

10 feet

NORTH

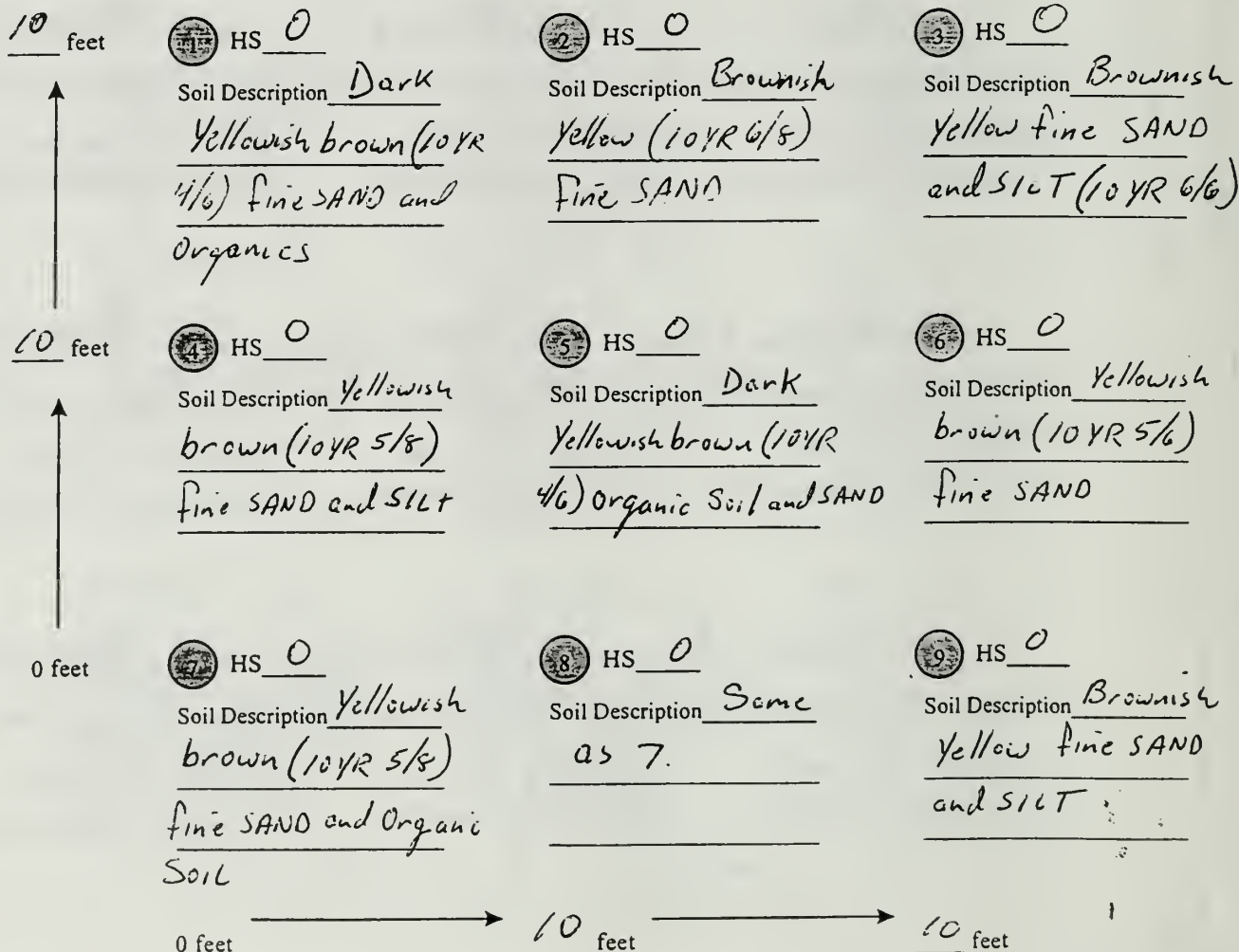


HS = Headspace PPM (0-6")

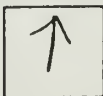
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHD
 SAMPLER(S): RP/KM/JD DATE: _____ (0-6") 3/17/98 (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
0945 (18-24") BGHDDBA (18-24")

VOC grab sample was collected from boring: —



NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP/6

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHC

SAMPLER(S): RP/JD DATE: 3-19-98 (0-6") (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1230 (18-24")

Sample ID: _____ (0-6")
BGHCBA (18-24")

VOC grab sample was collected from boring: _____

10 feet



HS 0

Soil Description Brownish
Yellow (10 YR 6/6)
Fine SAND



HS 0

Soil Description Same
as 1



HS 0

Soil Description Brownish
Yellow (10 YR 6/6)
Fine SAND

10 feet



HS 0

Soil Description Same
as 2.



HS 0

Soil Description Same
as 2



HS 0

Soil Description Same
as 2

0 feet



HS 0

Soil Description Yellowish
brown (10 YR 5/8)
Fine SAND



HS 0

Soil Description Same
as 7



HS 0

Soil Description Same
as 7

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GHC

SAMPLER(S): SD/NP/12m

DATE: 7/18/98

(0-6")

(18-24")

REMARKS:

Sample Time: 030 (0-6")
(18-24")

Sample ID: BG-HCAA (0-6")
BG-HCAA (18-24")

VOC grab sample was collected from boring: 5

10 feet

① HS 0

Soil Description: 10YR 3/4
dark yellowish brown
organic soil & fine sand

② HS 0

Soil Description: 10YR 5/4
yellowish brown
fine sand & organic soil

③ HS 0

Soil Description: 10YR 5/8
yellowish brown fine
sand

10 feet

④ HS 0

Soil Description: 10YR 4/4
dark yellowish brown
organic soil & sand

⑤ HS 0

Soil Description: 10YR 3/4
dark yellowish brown
organic soil and sand

⑥ HS 0

Soil Description: 10YR 4/1
dark grayish brown
organic soil and fine sand

0 feet

⑦ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
fine sand with some organic

⑧ HS 0

Soil Description: 10YR 5/8
yellowish brown fine sand

⑨ HS 0

Soil Description: 10YR 3/2
very dark grayish brown
organic soil and some sand

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHB

SAMPLER(S): JD/RP/KM DATE: 3/16/98 (0-6") (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1640 (18-24")

Sample ID: _____ (0-6")
BGHBBA (18-24")

VOC grab sample was collected from boring: _____

10 feet



HS 0

Soil Description Brownish
Yellow (10YR 6/8)
very fine SAND and
Silt



HS 0

Soil Description Brownish
Yellow (10YR 6/6)
very fine SAND and
Silt



HS 0

Soil Description Brownish
Yellow (10YR 6/8)
fine SAND, some
Gravel

10 feet



HS 0

Soil Description Yellow
(10YR 7/6) very
fine SAND



HS 0

Soil Description Yellowish
brown (10YR 5/6)
fine SAND



HS 0

Soil Description Same
as 1

0 feet



HS 0

Soil Description No
Sample



HS 0

Soil Description Dark
Yellowish brown
(10YR 4/6) fine SAND



HS 0

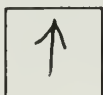
Soil Description Same
as 8

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-16

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103

GRID ID: B

SAMPLER(S): FE/JF/KD DATE: 1-22-98 (0-6") (18-24")

REMARKS: _____

Sample Time: 0905 (0-6")
(18-24")

Sample ID: BG HBAA (0-6")
(18-24")

VOC grab sample was collected from boring: _____

10 feet



HS 0.0

Soil Description Dark
Reddish brown
(5YR 3/3) very fine
SAND



HS 0.0

Soil Description Dark
Reddish brown (5YR
2.5/2) very fine SAND



HS 0.0

Soil Description Same
as 2.

10 feet



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2

0 feet



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Same
as 2

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



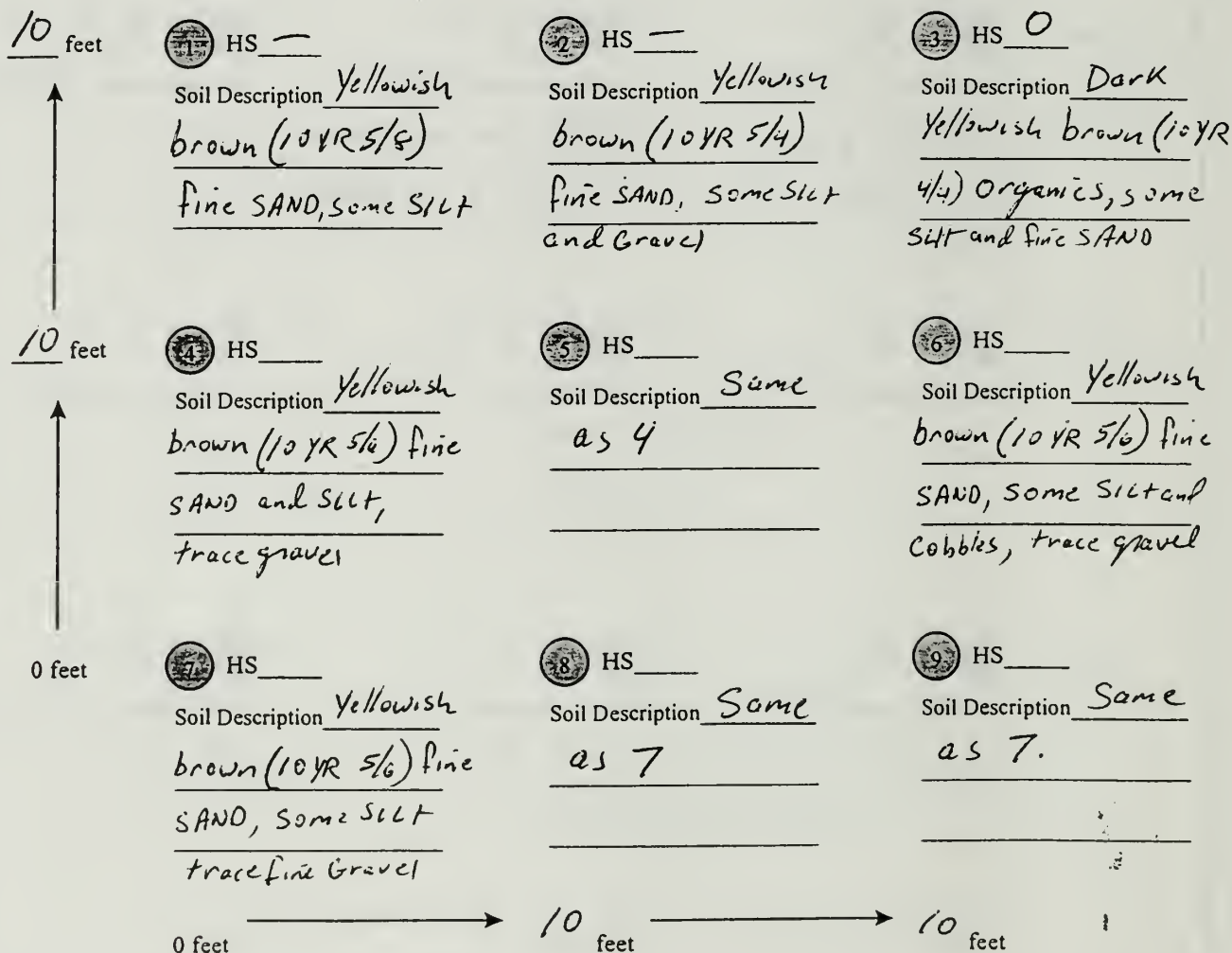
Hand Auger Log

AREA: GP-16

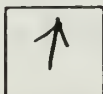
PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GHA
SAMPLER(S): JD/KM/RP DATE: (0-6") 3-16-98 (18-24")
REMARKS:

Sample Time: 1020 (0-6") Sample ID: BGHABA (0-6")
(18-24") (18-24")

VOC grab sample was collected from boring: 5



NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 6A-16

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: A

SAMPLER(S): F. Esquibel

DATE: 1-23-98 (0-6")

(18-24")

REMARKS: J. Ferranti K. Dadaev - Collected Duplicate

Sample Time: 0830

(0-6")

Sample ID: BG11AAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring 5

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0

Soil Description: SYR 2.5/2

Soil Description: SYR 2.5/2

Soil Description: SYR 2.5/2

Dark Reddish Brown

DK. REDDISH BR.

DK. REDDISH BR.

Very fine sand

Very fine sand

Very fine sand

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0

Soil Description: SYR 2.5/2

Soil Description: SYR 2.5/2

Soil Description: SYR 2.5/2

DK. REDDISH BR.

DK. REDDISH BR.

DK. REDDISH BR.

Very fine sand

Very fine sand

Very fine sand

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description: SYR 2.5/2

Soil Description: S. YR 2.5/2

Soil Description: SYR 4/4

DK. REDDISH BR.

DK. REDDISH BR.

Reddish Brown

Very fine sand

Very fine sand

Very fine sand

0 feet

10 feet

feet

10 feet

feet

NORTH



HS = Headspace PPM (0-6")

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: G M N

SAMPLER(S): 1P/5D

DATE: (0-6")

BGMN/BA (18-24")

3/20/96

REMARKS:

Sample Time: (0-6")
1330 (18-24")Sample ID: (0-6:)
73 BGMN/BA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10 YR 6/6
Brownish yellow medium
sand

② HS 0

Soil Description: 7.5 YR 5/4
strong brown medium
sand

③ HS 0

Soil Description: 7.5 YR 4/8
reddish yellow
medium sand

10 feet

④ HS 0

Soil Description: 10 YR 5/6
yellowish brown medium
sand

⑤ HS 0

Soil Description: 10 YR 6/8
brownish yellow medium
sand

⑥ HS 0

Soil Description: 10 YR 5/6
yellowish brown medium
sand

0 feet

⑦ HS 0

Soil Description: 10 YR 5/6
yellowish brown medium
sand

⑧ HS 0

Soil Description: 6 YR 6/4
brownish yellow fine
medium sand w/ some coarse
sand

⑨ HS 0

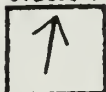
Soil Description: 10 YR 6/4
Same as 8

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GMN

SAMPLER(S): KD FE JF DATE: _____ (0-6") _____ (18-24")

REMARKS: Collected duplicate sample / Control Grid

Sample Time: 1235 (0-6") Sample ID: BGMNAA (0-6")
_____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Dark
Brown (10YR 3/3)
Fine SAND



HS 0.0

Soil Description Dark
Brown (10YR 4/3)
Fine SAND



HS 0.0

Soil Description Same
as 2

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 2

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

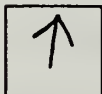
Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GMM
SAMPLER(S): RP/JD DATE: _____ (0-6") 3-20-98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1210 (18-24") BGMMBA (18-24")

VOC grab sample was collected from boring: NS

10 feet



① HS 0

Soil Description Dark
Yellowish brown
(10YR 4/4) fine SAND,
some SILT

② HS 0

Soil Description Dark
Yellowish brown
fine SAND, some SILT,
trace fine Gravel.

③ HS 0

Soil Description Light
Olive brown (2.5Y 5/4)
fine SAND and SILT
trace fine Gravel

10 feet



④ HS 0

Soil Description Light
Olive brown (2.5Y 5/4)
fine SILT, some fine
SAND.

⑤ HS 0

Soil Description Light
Olive brown (2.5Y
5/4) SILT, trace fine
Sand and pebbles

⑥ HS 0

Soil Description Dark
Yellowish brown
(10YR 4/6) SILT, trace
fine SAND and pebbles

0 feet

⑦ HS 0

Soil Description Same
as 6

⑧ HS 0

Soil Description Same
as 6

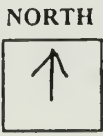
⑨ HS 0

Soil Description Dark
Yellowish brown
(10YR 4/4) SILT,
trace fine SAND

0 feet

10 feet

10 feet



HS=Headspace PPM (0-6")

Hand Auger Log

AREA: GP-7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GMM

SAMPLER(S): KD/FE/JF DATE: _____ (0-6") _____ (18-24")

REMARKS: Control Grid

Sample Time: 1305 (0-6") Sample ID: BGMMAA (0-6")
 _____ (18-24") _____ (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Dark
brown (10YR 3/3)
Very fine SAND
Some clay



HS 0.0

Soil Description Very
dark Greyish brown
(10YR 3/2) Very fine
SAND with Organics



HS 0.0

Soil Description Same
as 1

10 feet



HS 0.0

Soil Description Same as
2.



HS 0.0

Soil Description Same
as 2.



HS 0.0

Soil Description Same
as 2.

0 feet



HS 0.0

Soil Description Same
as 2



HS 0.0

Soil Description Dark
brown very fine
SANDS (10YR 3/3)



HS 0.0

Soil Description Same
as 2.

0 feet

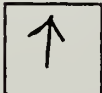
10

feet

10

feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: GML
 SAMPLER(S): RP (J) DATE: 3/24/98 (0-6") (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
100 (18-24") BGMLBA (18-24")

VOC grab sample was collected from boring: _____

10 feet ↑	① HS <u>0</u> Soil Description: <u>10YR 6/6</u> <u>Brownish Yellow coarse</u> <u>sand and gravel</u>	② HS <u>0</u> Soil Description: <u>10YR 6/6</u> <u>Brownish Yellow coarse</u> <u>sand & gravel</u>	③ HS <u>NA</u> Soil Description: <u>no sample</u>
	④ HS <u>0</u> Soil Description: <u>10YR 6/6</u> <u>Brownish Yellow coarse</u> <u>sand and gravel</u>	⑤ HS <u>0</u> Soil Description: <u>same as 4</u>	⑥ HS <u>0</u> Soil Description: <u>to same as 4</u>
10 feet ↑	⑦ HS <u>0</u> Soil Description: <u>same as 4</u>	⑧ HS <u>0</u> Soil Description: <u>same as 4</u>	⑨ HS <u>0</u> Soil Description: <u>same as 4</u>
	⑩ HS <u>0</u> Soil Description: _____	⑪ HS <u>0</u> Soil Description: _____	⑫ HS <u>0</u> Soil Description: _____
0 feet	0 feet	10 feet	10 feet

NORTH

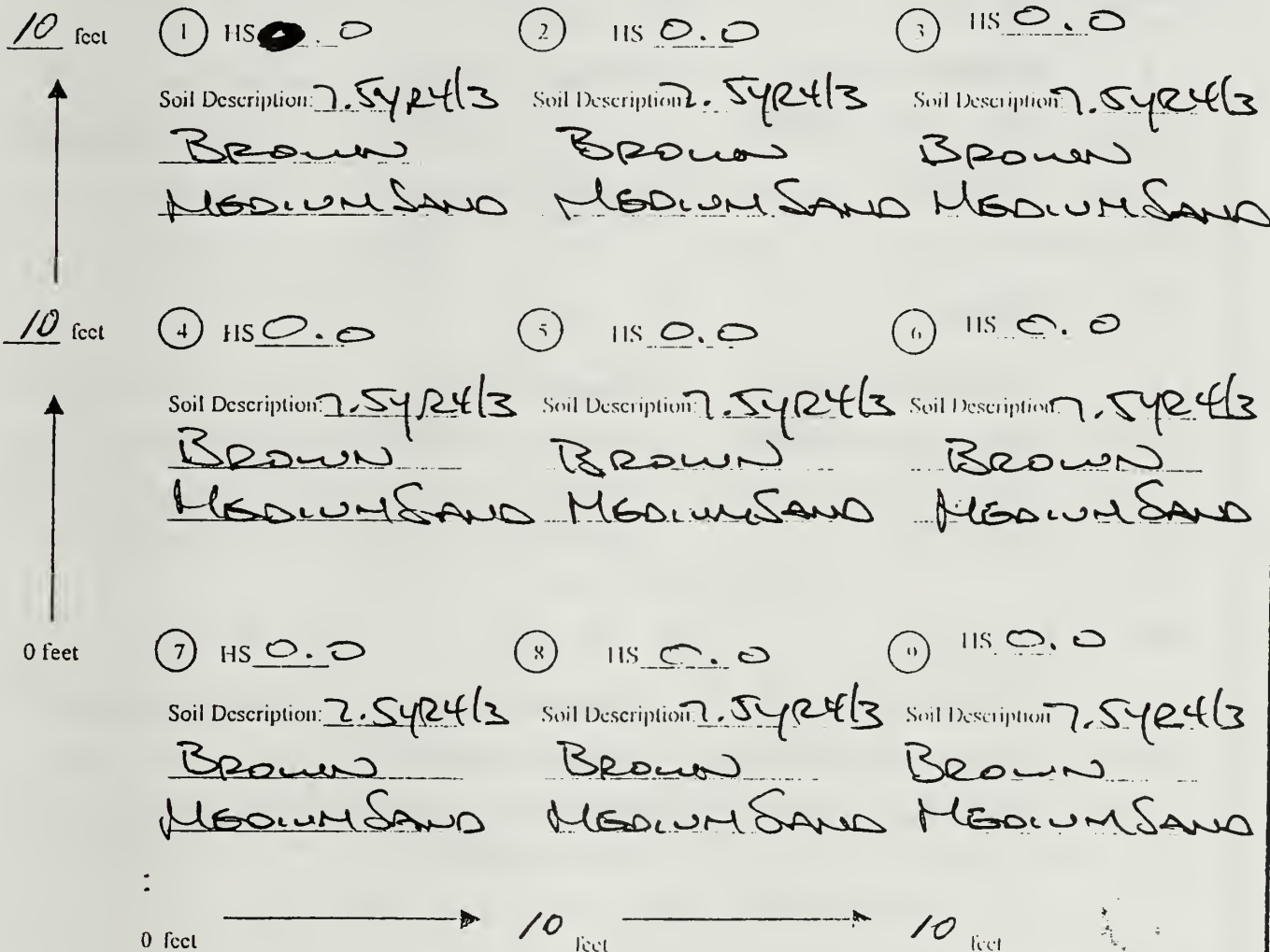


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: L
 SAMPLER(S): KD, FE, & JF DATE: 1-27-98 (0-6") (18-24")
 REMARKS:

Sample Time: 0945 (0-6") Sample ID: BGM LAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: 5



NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: GP7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: GMK

SAMPLER(S): RP100

DATE: _____ (0-6") 03/24/98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
09:35 (18-24")

Sample ID: _____ (0-6")
BGMKBA (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR5/1
gray fine SAND
+ SILT

② HS 0

Soil Description: 10YR5/2
grayish brown
fine SAND + SILT,
some f to m gravel.

③ HS 0

Soil Description: _____
NO SAMPLE

10 feet

④ HS 0

Soil Description: 10YR5/3
brown fine SAND
+ SILT, trace f to
m gravel.

⑤ HS 0

Soil Description: 10YR6/2
light brownish gray,
fine SAND + SILT,
trace gravel.

⑥ HS 0

Soil Description: 10YR5/6
yellowish brown f to
m SAND + SILT, trace
m to f gravel.

0 feet

⑦ HS 0

Soil Description: 10YR4/3
(brown)
f to m SAND, trace
Silt + f gravel

⑧ HS 0

Soil Description: 10YR4/2
d/grayish brown f.
SAND + SILT, some
f to m gravel.

⑨ HS 0

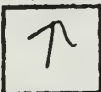
Soil Description: 10YR6/3
pale brown fine
SAND + SILT, trace
m to f gravel.

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

11/27/98

Hand Auger Log

AREA: 6P07

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: K

SAMPLER(S): KD FE₁ + JF DATE: 11-27-98 (0-6") (18-24")

REMARKS:

Sample Time: 0845 (0-6") (18-24")

Sample ID: BGMKAA (0-6") (18-24")

VOC grab sample was collected from boring 5

10 feet

(1) HS 0.0

(2) HS 0.0

(3) HS 0.0

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

DARK BROWN

DARK BROWN

DARK BROWN

MEDIUM SAND

FINE SAND

FINE-MEDIUM SAND

W/ PEBBLES

10 feet

(4) HS 0.0

(5) HS 0.0

(6) HS 0.0

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

DARK BROWN

DARK BROWN

DARK BROWN

MEDIUM SAND

MEDIUM SAND

FINE-MEDIUM SAND

W/ PEBBLES

0 feet

(7) HS 0.0

(8) HS 0.0

(9) HS 0.0

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

Soil Description: 7.5YR3/2

DARK BROWN

DARK BROWN

DARK BROWN

MEDIUM SAND

MEDIUM SAND

MEDIUM SAND

0 feet

10 feet

10 feet

NORTH



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: GP-7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GMS

SAMPLER(S): RP/JD DATE: _____ (0-6") 3-20-88 (18-24")

REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1450 (18-24") BGMTBA (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description Yellowish
brown (10YR 5/4)
med to fine SAND
and Gravel

② HS 0

Soil Description Dark
Yellowish brown
(10YR 4/4) med to fine
SAND and Gravel

③ HS 0

Soil Description Yellowish
brown (10YR 5/4)
med SAND and
Gravel

10 feet

④ HS 0

Soil Description Same
as 3

⑤ HS 0

Soil Description Same
as 3

⑥ HS 6.3

Soil Description Greenish
gray (1Gley 6/1)
Silt, some fine
to med Sand and Gravel

0 feet

⑦ HS 0

Soil Description Strong
brown (7.5 YR 5/6)
med SAND, some
med to fine Gravel

⑧ HS 0

Soil Description Greenish
gray (1Gley 6/1)
Silt, trace fine
SAND and Gravel

⑨ HS 0

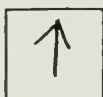
Soil Description Yellowish
brown (10YR 5/6)
med SAND and Gravel

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 6P-07

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: J

SAMPLER(S): F. Esquivel

DATE: 1-26-98

(0-6")

(18-24")

REMARKS: J. Ferranti

Sample Time: 1530

(0-6")

Sample ID: BGMJAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring:

10 feet

① HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

② HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

③ HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

10 feet

④ HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

⑤ HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

⑥ HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

0 feet

⑦ HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

⑧ HS 0.0

Soil Description: 7.5IR⁴/₆

Same as 9

⑨ HS 0.0

Soil Description: 7.5IR⁴/₆

Strong Brown
Med Snds w/ Pebble
Inclusions

0 feet

10 feet

10 feet

NORTH



HS Headspace PPM (0-6")

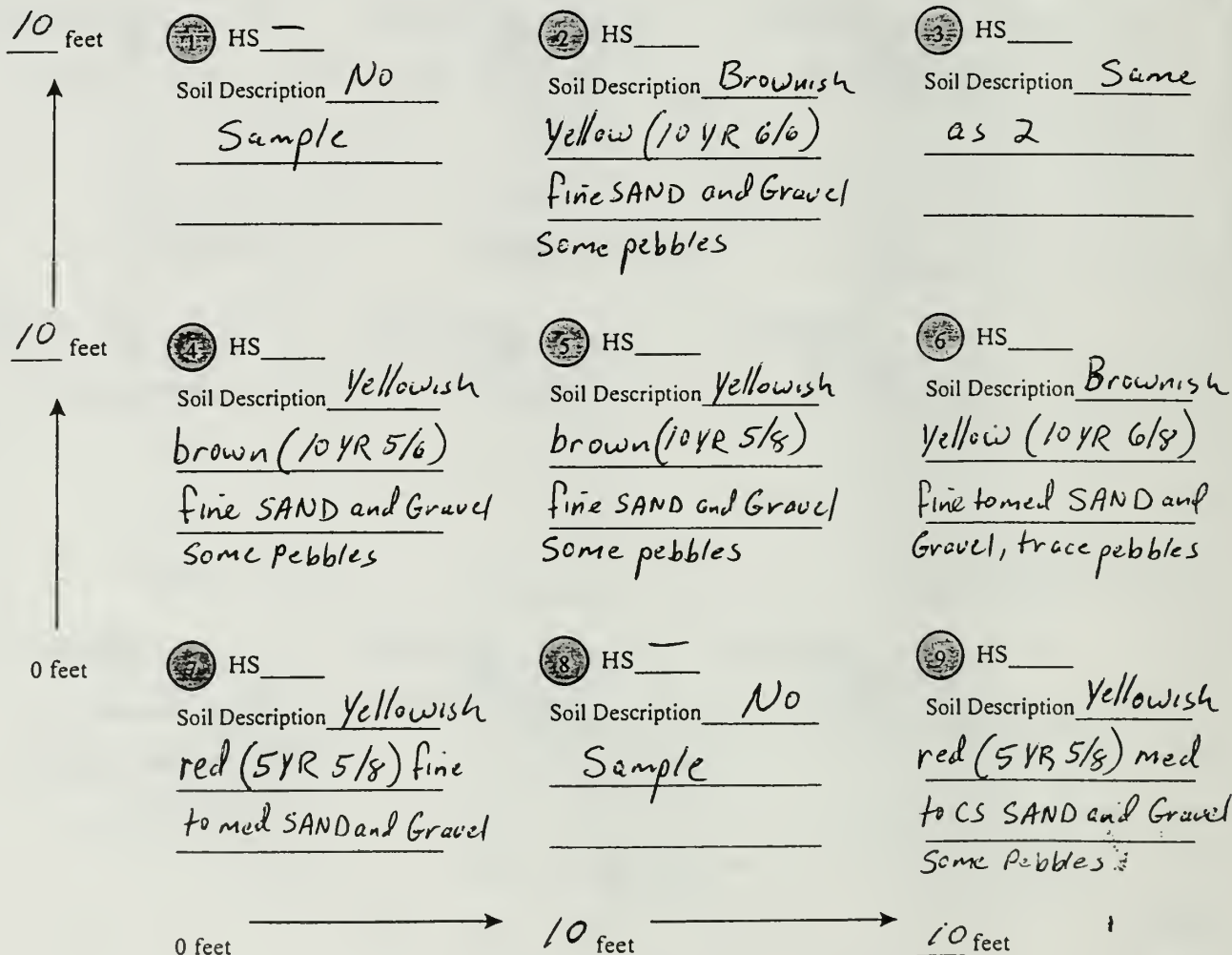


Hand Auger Log

AREA: GP-7

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GMI
SAMPLER(S): JD/KM DATE: _____ (0-6") 3/18/98 (18-24")
REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
_____ (18-24") BGMI BA (18-24")
VOC grab sample was collected from boring: NS



NORTH



HS=Headspace PPM (0-6")

OGDEN

Hand Auger Log

AREA: 6P07

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: I

SAMPLER(S): F. Esquivel

DATE: 1-26-98

(0-6")

(18-24")

REMARKS: J. Ferranti

Sample Time: 0800

(0-6")

Sample ID: BGMIAA

(0-6")

(18-24")

(18-24")

VOC grab sample was collected from boring: _____

10 feet

(1) HHS 0.0

(2) HHS 0.0

(3) HHS 0.0

Soil Description: 7.5 YR 4/6

Soil Description: 7.5 YR 4/6

Soil Description: 7.5 YR 4/6

Shag Brown Mud
Sands w/ Pebble Inclusions

Same as 1

Same as 1

10 feet

(4) HHS 0.0

(5) HHS 0.0

(6) HHS 0.0

Soil Description: 7.5 YR 4/6

Soil Description: 7.5 YR 4/6

Soil Description: 7.5 YR 4/6

Same as 1

Same as 1

Same as 1

0 feet

(7) HHS 0.0

(8) HHS 0.0

(9) HHS 0.0

Soil Description: 7.5 YR 4/6

Soil Description: 7.5 YR 4/6

Soil Description: 7.5 YR 4/6

Same as 1

Same as 1

Same as 1

0 feet

10 feet

10 feet

NORTH

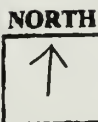
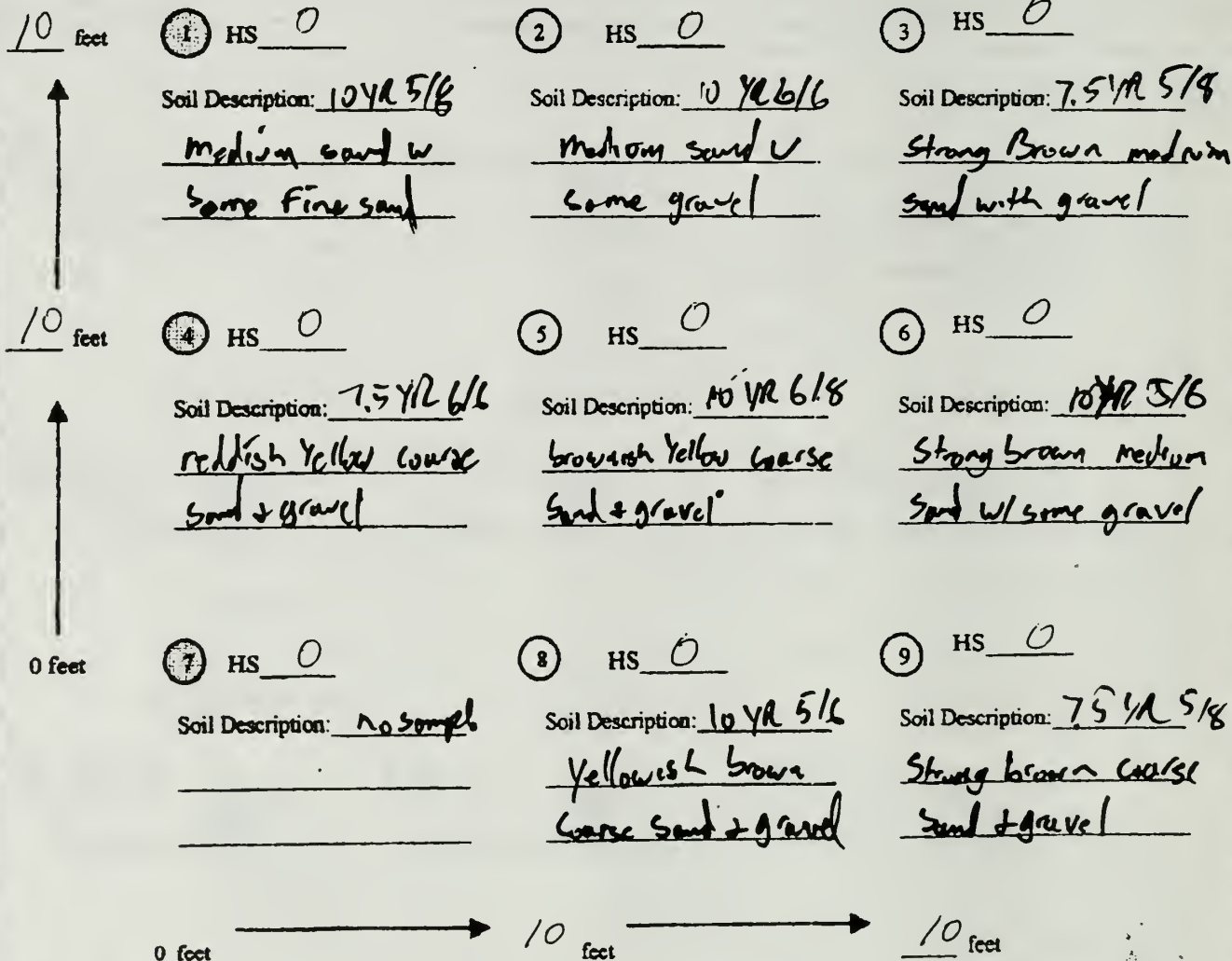


HHS Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: GMH
 SAMPLER(S): JD DATE: 3/23/99 (0-6") (18-24")
 REMARKS: _____

Sample Time: _____ (0-6") Sample ID: _____ (0-6")
1200 (18-24") BGMHQA (18-24")

VOC grab sample was collected from boring: _____

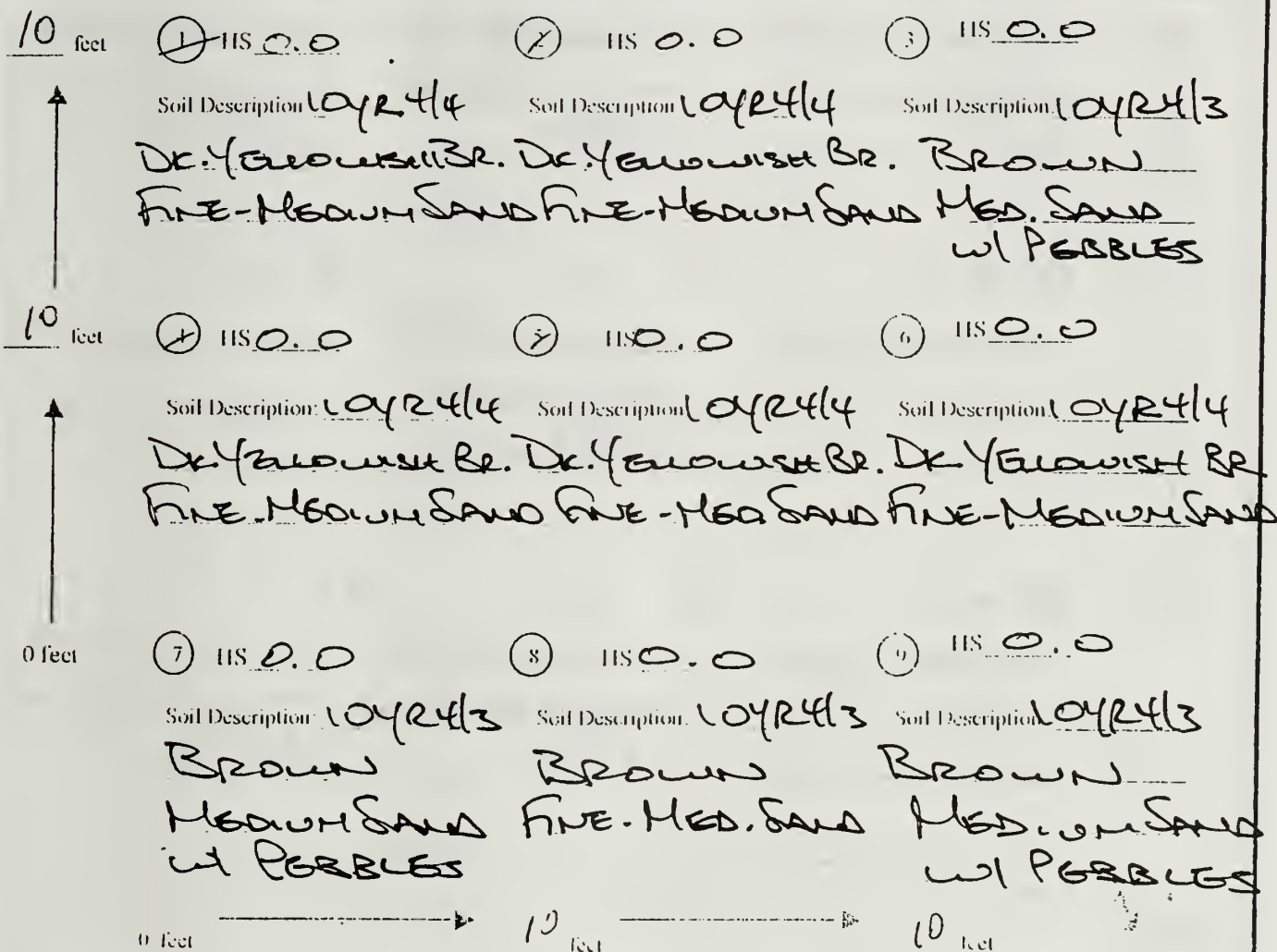


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: H
 SAMPLER(S): 1CD, FG + IF DATE: 1-27-98 (0-6") (18-24")
 REMARKS: _____

Sample Time: 1025 (0-6") Sample ID: BGMHAA (0-6")
 (18-24") (18-24")



VOC grab sample was collected from boring: 5



PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: 6M6
 SAMPLER(S): JD DATE: 3/23/98 (0-6") (18-24")
 REMARKS: _____


Sample Time: 1100 (0-6") (18-24") Sample ID: B6M6BA (0-6") (18-24")

VOC grab sample was collected from boring: _____

10 feet  10 feet  0 feet	① HS <u>0</u> Soil Description: <u>10YR 5/6</u> <u>yellowish brown fine</u> <u>sand.</u>	② HS <u>0</u> Soil Description: <u>10YR 6/8</u> <u>brownish yellow fine</u> <u>sand & silt</u>	③ HS <u>0</u> Soil Description: <u>10YR 6/6</u> <u>brownish yellow fine</u> <u>sand & silt</u>
	④ HS <u>0</u> Soil Description: <u>same as 3</u> _____ _____	⑤ HS <u>0</u> Soil Description: <u>10YR 5/6</u> <u>yellowish brown</u> <u>fine sand & silt</u>	⑥ HS <u>0</u> Soil Description: <u>same as 5</u> _____ _____
	⑦ HS <u>0</u> Soil Description: <u>same as 5</u> <u>5</u> _____ _____	⑧ HS <u>0</u> Soil Description: <u>10YR 6/6</u> <u>brownish yellow fine sand</u> <u>and silt</u>	⑨ HS <u>0</u> Soil Description: <u>10YR 6/6</u> <u>brownish yellow v fine</u> <u>sand and silt</u>

0 feet
10 feet
10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103

GRID ID: G

SAMPLER(S): KD/FE/JF DATE: 1-27-98 (0-6") (18-24")

REMARKS:

Sample Time: 0915 (0-6") (18-24")

Sample ID: BGMCAA (0-6") (18-24")

VOC grab sample was collected from boring: 5

10 feet



HS 0.0

Soil Description Dark
brown (7.5 YR 3/3)
med SAND



HS 0.0

Soil Description Dark
brown (7.5 YR 4/3)
med SAND



HS 0.0

Soil Description Same
as 2

10 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 2

0 feet



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1



HS 0.0

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH

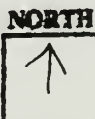
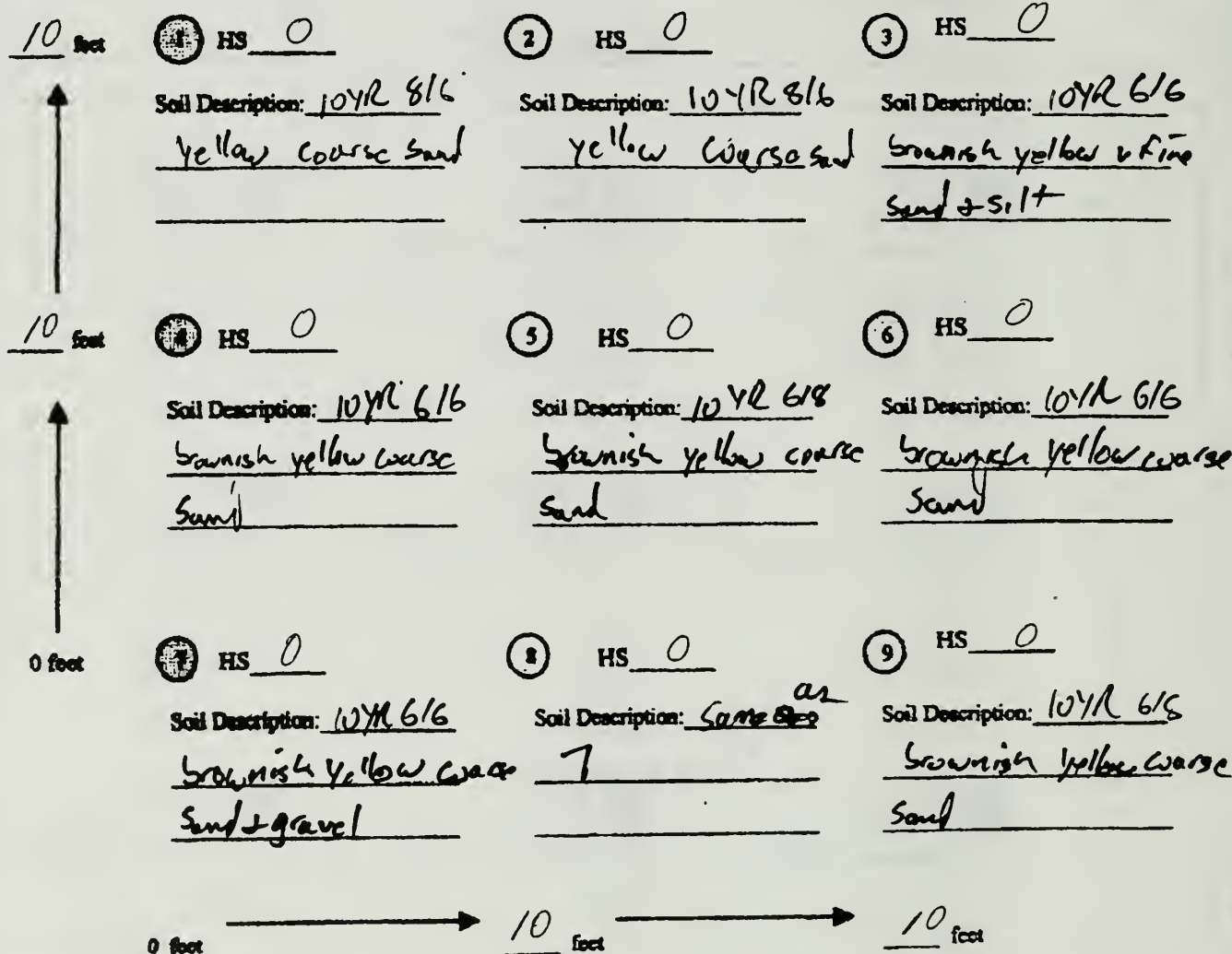


HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 313000103 GRID ID: LMF
 SAMPLER(S): SC150 DATE: (0-6") 03/23/98 (18-24")
 REMARKS: _____

Sample Time: (0-6") 1000 (18-24") Sample ID: (0-6") BGMFBA (18-24")

VOC grab sample was collected from boring: _____



HS=Headspace PPM (0-6")



Hand Auger Log

AREA: GP-07

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: F

SAMPLER(S): FE/JF DATE: 1-26-98 (0-6") _____ (18-24")

REMARKS: _____

Sample Time: 1550 (0-6")
_____ (18-24")

Sample ID: BGMFAA (0-6")
_____ (18-24")

VOC grab sample was collected from boring: _____

10 feet



HS 0

Soil Description Very
Strong brown (7.5YR
4/6) med SAND, some
pebbles



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 1

10 feet



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 1



HS 0

Soil Description Same
as 1

0 feet



HS 0

Soil Description Same
as 1



HS 0

Soil Description Very
dark brown (7.5YR
2.5/2) med SAND
some pebbles



HS 0

Soil Description Same
as 1

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

PROJECT NAME: MMR PROJECT NUMBER: 31300-0103 GRID ID: GME
 SAMPLER(S): JD DATE: 3/23/98 (0-6") (18-24")
 REMARKS: _____

Sample Time: 0900 (0-6") (18-24") Sample ID: BGMEBA (0-6") (18-24")

VOC grab sample was collected from boring: NS

10 feet

① HS 0

Soil Description Brownish
Yellow (10YR 6/6) fine
SAND, some med SAND

② HS 0

Soil Description Brownish
Yellow (10YR 6/6)
CS SAND, some
Gravel and Pebbles

③ HS 0

Soil Description Same
as 2

10 feet

④ HS 0

Soil Description Same
as 2

⑤ HS 0

Soil Description Pale
brown (10YR 6/3)
Very fine SAND and Silt

⑥ HS 0

Soil Description Light
Yellowish brown (10YR
6/4) medium SAND
Some Gravel

0 feet

⑦ HS 0

Soil Description Yellowish
brown (10YR 5/8) med
SAND and Gravel

⑧ HS 0

Soil Description Same
as 6

⑨ HS 0

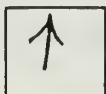
Soil Description Brownish
Yellow (10YR 6/8)
CS SAND and Gravel

0 feet

10 feet

10 feet

NORTH

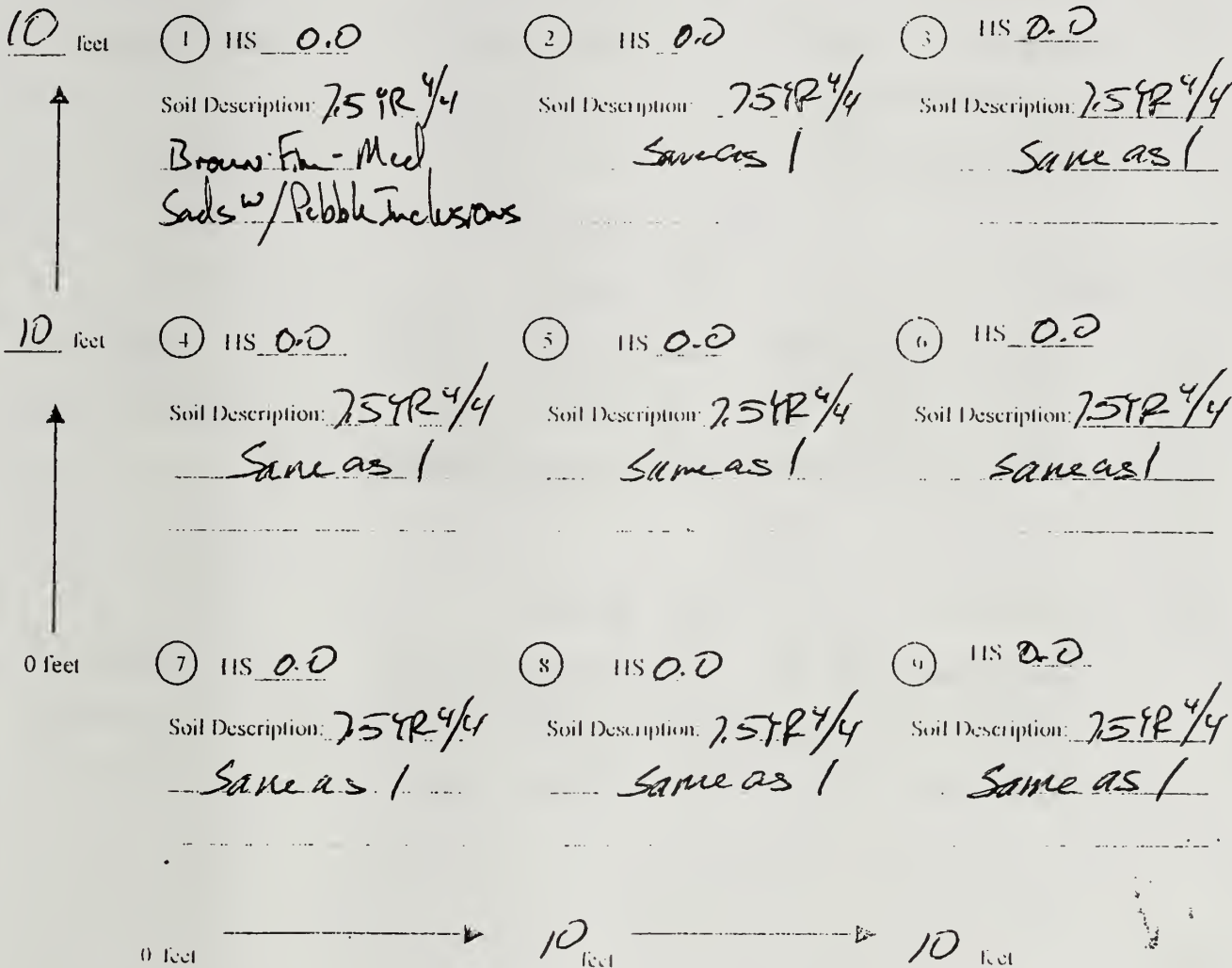


HS=Headspace PPM (0-6")

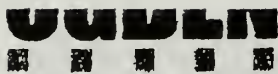
PROJECT NAME: NMR PROJECT NUMBER: 313000103 GRID ID: E
 SAMPLER(S): F. Esquivel DATE: 1-26-98 (0-6") (18-24")
 REMARKS: J. Ferranti

Sample Time: 0830 (0-6") Sample ID: B4MEAA (0-6")
 (18-24") (18-24")

VOC grab sample was collected from boring: _____



HS = Headspace PPM (0-6")



Hand Auger Log

AREA: HP7

PROJECT NAME: MMR

PROJECT NUMBER: 313000103

GRID ID: LM10

SAMPLER(S): 50

DATE: _____ (0-6")

3/23/98 (18-24")

REMARKS: _____

Sample Time: _____ (0-6")
1415 (18-24")

Sample ID: _____ (0-6")
B+M034 (18-24")

VOC grab sample was collected from boring: _____

10 feet

① HS 0

Soil Description: 10YR 6/6
Greenish Yellow
v. fine sand and silt

② HS 0

Soil Description: fine silt

③ HS 0

Soil Description: same as 1

10 feet

④ HS 0

Soil Description: 10YR 4/6
dark yellowish brown
organic soil + fine sand

⑤ HS 0

Soil Description: 10YR 5/6
yellowish brown
organic soil + fine sand

⑥ HS 0

Soil Description: 10YR 6/6
Greenish Yellow Fine
Sand

0 feet

⑦ HS 0

Soil Description: 10YR 5/4
Yellowish brown organic
Soil + Fine Sand

⑧ HS 0

Soil Description: 10YR 5/6
Yellowish brown fine
sand + organic soil

⑨ HS 0

Soil Description: 10YR 6/4
light yellowish brown
v. fine sand + silt

0 feet

10 feet

10 feet

NORTH



HS=Headspace PPM (0-6")

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

SUCCESSIONE POINT

Project Name: MMR

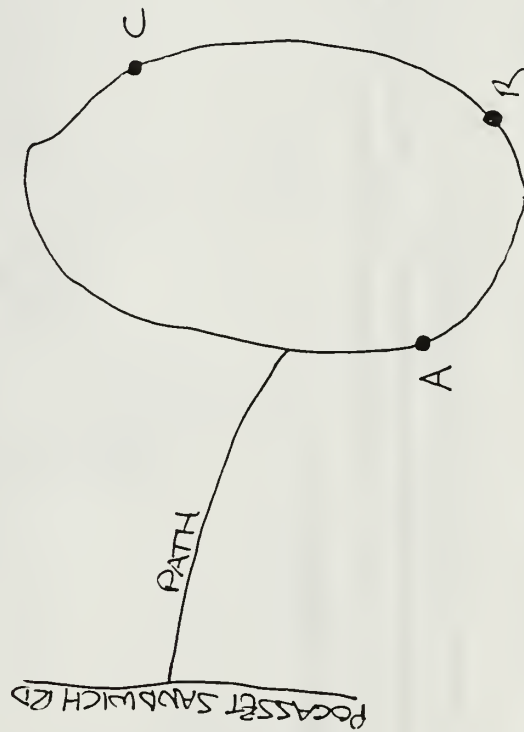
Project Number: 313000103

Date Started: 1/14/98

Date Finished: 1/14/98

Comments:

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	1-7"	P08AAA	800
		D08AAA	830
B	1-7"	P08BAA	900
		D08BAA	930
C	1-7"	P08CAA	980
		D08CAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

5-3 WESTLAND

Project Name: MMR

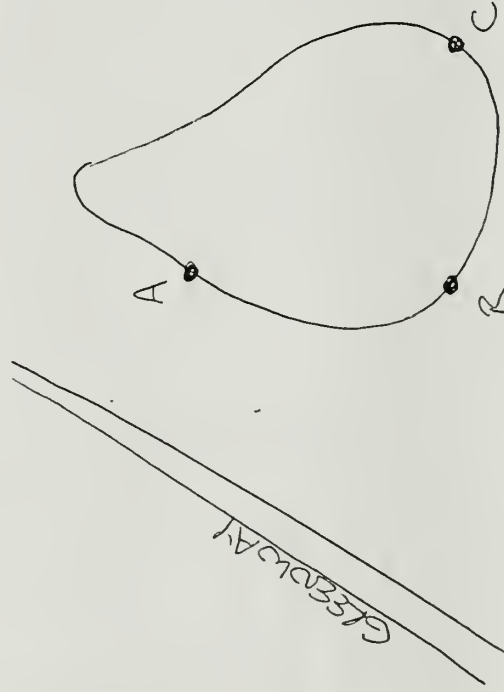
Project Number: 313000103

Date Started: 1/27/98

Date Finished: 1/27/98

Comments: Sampled by JR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	3-9"	P23AAA	1430
		D23AAA	
B	6-12"	P23BAA	1400
		D23BAA	
		P23BAD	
		D23BAD	
C	1-7"	P23CAA	1515
		D23CAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:
ROCK GUN CLUB

Project Name: MMR

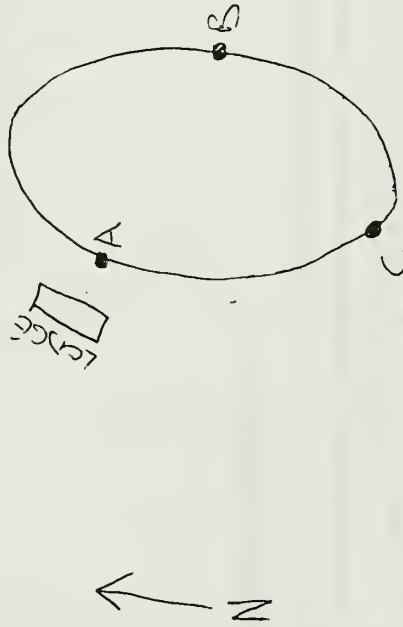
Project Number: 313000103

Date Started: 1/27/98

Date Finished: 1/27/98

Comments: Sampled by SR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P25AAA	830
		D25AAA	
		(MS/MSD)	
B	2-8"	P25BAA	900
		D25BAA	
		P25BAD	
		D25BAD	
C	2-8"	P25CAA	1100
		D25CAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

Deep Bottom Pond

Project Name: MMR

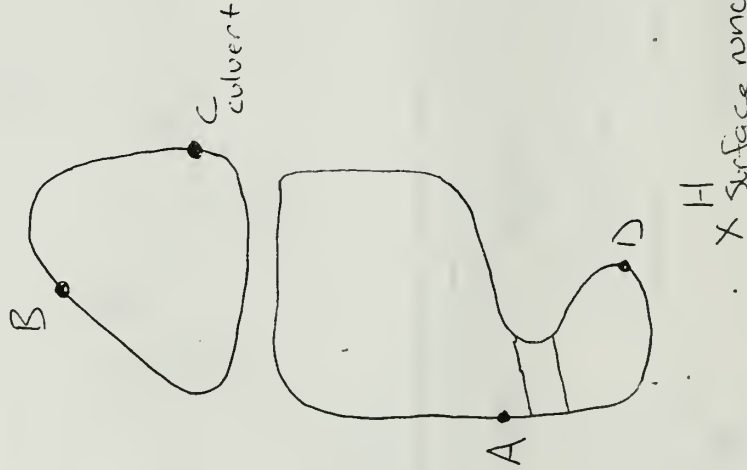
Project Number: 313000103

Date Started: 11/15/98

Date Finished: 11/20/98

Comments: Sampled by SR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P26AAA D26AAA	1515
B	1-7"	P26BAA D26BAA	1545
C	0-6"	P26CAA D26CAA	1430
D	1-7"	P26DAA D26DAA	1300
H	0-6"	D26HAA	800 1120/98

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:
CRANLEY BOG

Project Name: MMR

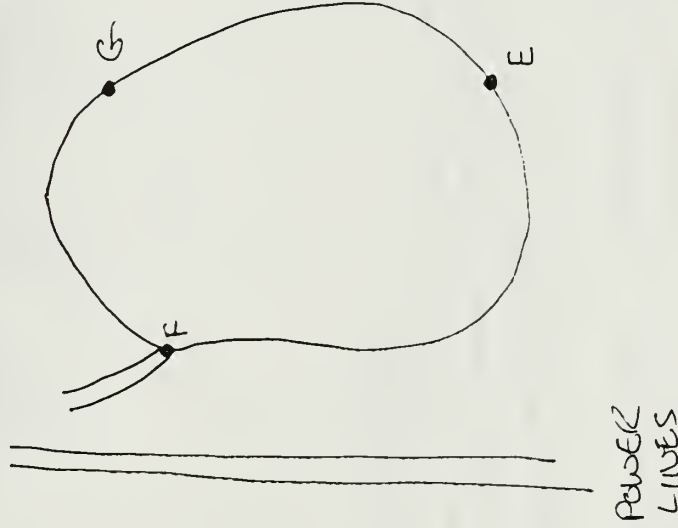
Project Number: 313000103

Date Started: 1/20/98

Date Finished: 1/20/98

Comments: Sampled by JR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
E	0-6"	P2LEAA D2LEAA	930
F	0-6"	P2LFAA D2LFAA	900
G	0-6"	P2LGAA D2LGAA	810

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

ROUND SWAMP

Project Name: MMR

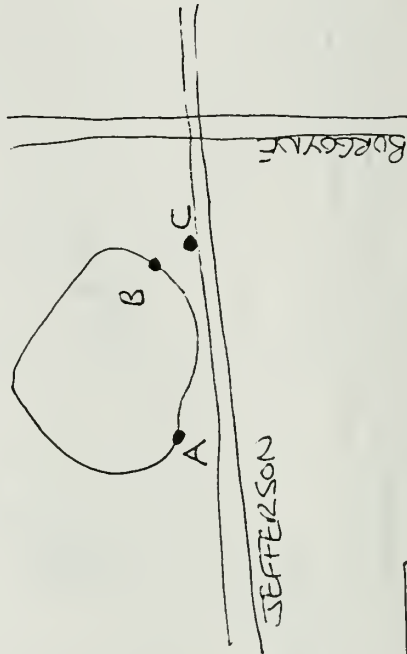
Project Number: 313000103

Date Started: 1/14/98

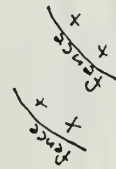
Date Finished: 1/14/98

Comments: Sampled by JR/SF

Sketch of Sample Area:



C sample:
composite of 2 loc.
at 2 sediment fences



JEFFERSON

Sample Description			
Location	Depth	ID #	Time
A	2-8"	P27AAA D27AAA	
B	1-7"	P27BAA D27BAA (MS/MSD)	
C	0-3"	P27CAA D27CAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:
GLASSY POND

Project Name: MMR

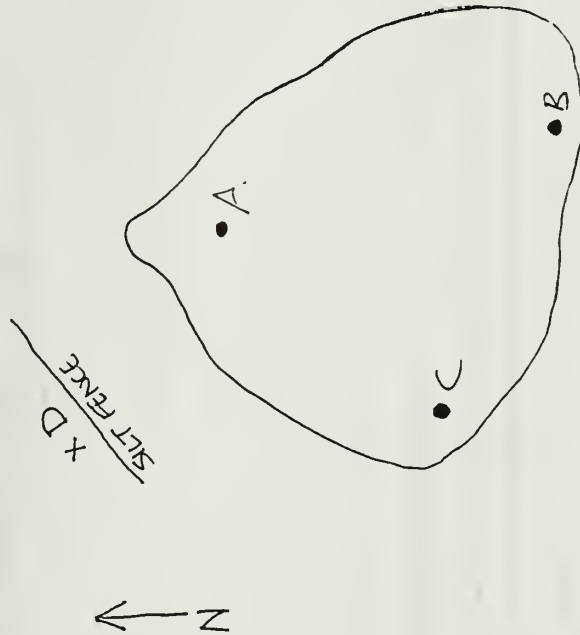
Project Number: 313000103

Date Started: 1/20/98

Date Finished: 1/20/98

Comments: sampled by J2/SF water 2' deep at all sample locations

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	1-7"	P28AAA D28AAA P28AAD D28AAD P28BAA D28BAA	1030
B	1-7"	P28CAA D28CAA	1130
C	1-7"	P28DAA D28DAA	1215
D	0-6"	P28DAA D28DAA sediment only	1030



SAMPLE LOCATION:

Ox Pond

Project Name: MMR

Project Number: 313000103

Date Started: 1/21/98

Date Finished: 1/21/98

Comments: _____

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	1-7"	P29AAA	830
		D29AAA	
B	6-6"	P29BAA	800
		D29BAA	
C	12-18"	P29CAA	900
		D29CAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

DONNELLY POND

Project Name: MMR

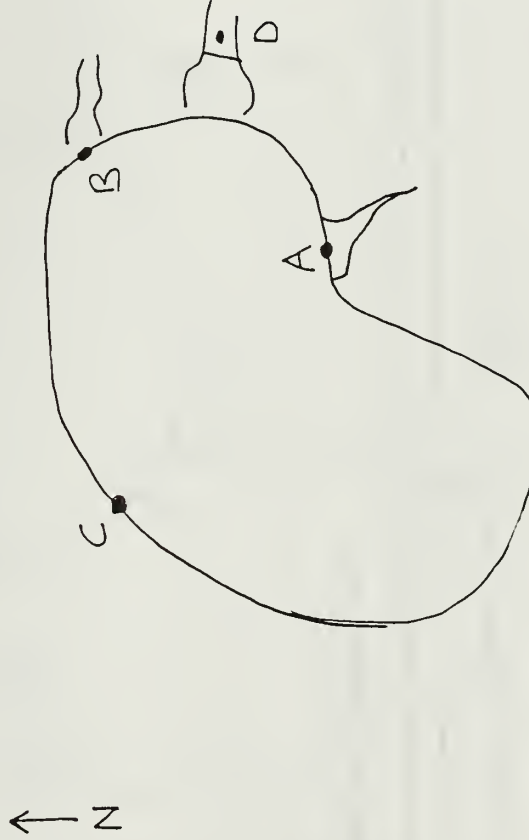
Project Number: 313000103

Date Started: 1/15/98

Date Finished: 1/15/98

Comments: sampled by JR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P30AAA D30AAA	830
B	0-6"	P30BAA D30BAA	900
C	2-8"	P30CAA D30CAA	930
D	0-6"	D30DAA (sed. comp.)	1000

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

LITTLE HALFWAY POND

Project Name: MMR

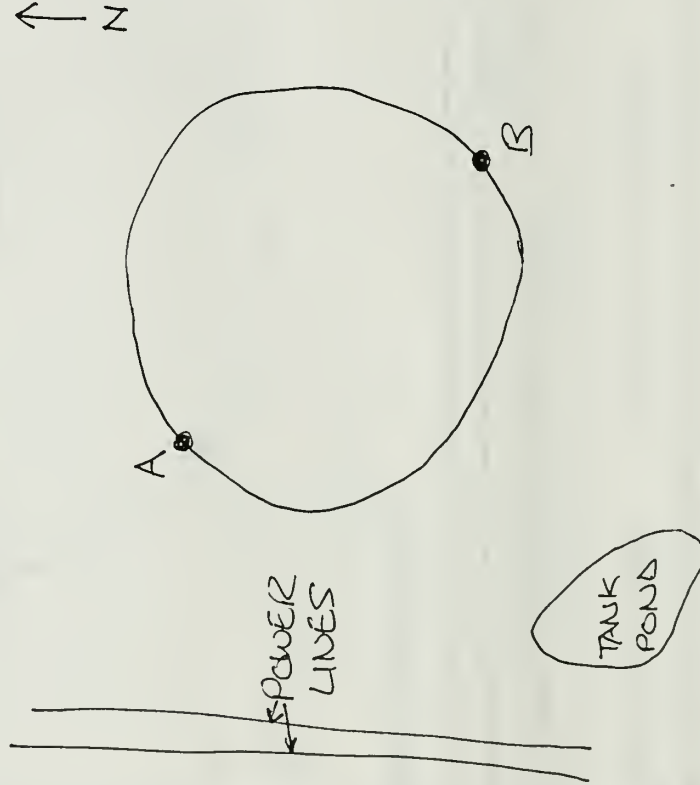
Project Number: 313000103

Date Started: 11/5/98

Date Finished: 11/15/98

Comments: Sampled by TR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	1 - 7"	P31AAA D31AAA	1100
B	1 - 7"	P31BAA D31BAA	1030

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

RACCON SWAMP

Project Name: MMR

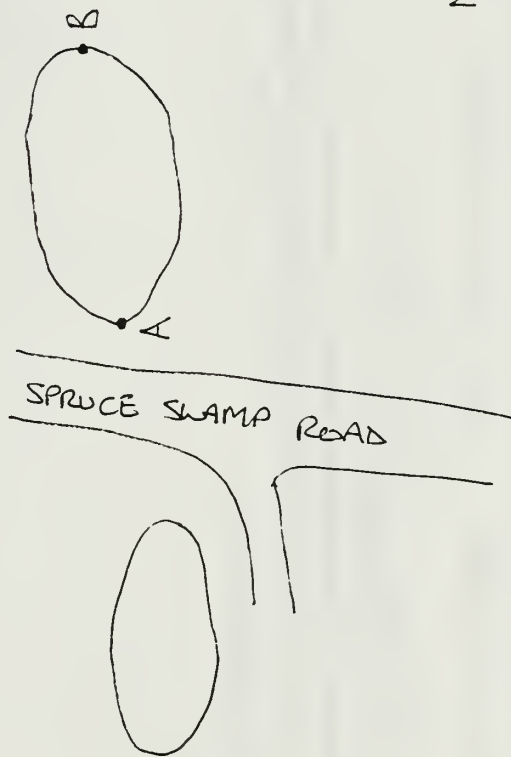
Project Number: 313000103

Date Started: 1/20/98

Date Finished: 1/20/98

Comments: Sampled by J12/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P32AAA D32AAA	1430
B	0-6"	P32BAA D32BAA	1500

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:
SNAKE POND

Project Name: MMR

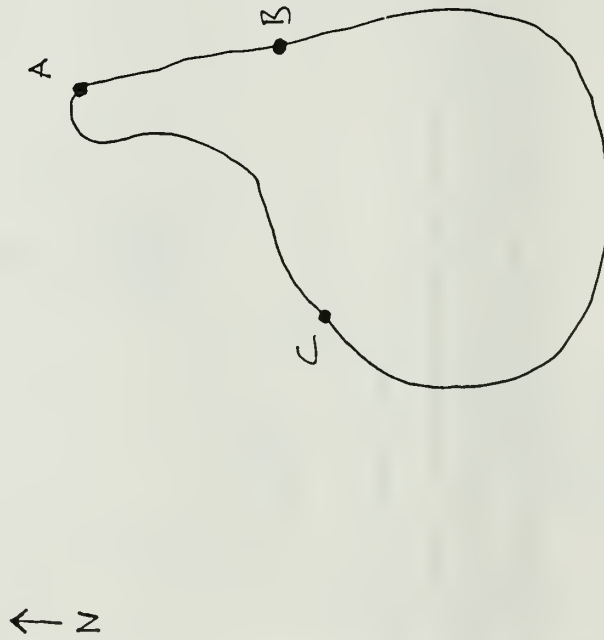
Project Number: 313000103

Date Started: 2/11/98

Date Finished: 2/11/98

Comments: Sampled by JRS/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P33AAA	1030
		D33AAA	
		P33AAD	
		D33AAD	
B	0-6"	P33BAA	1100
		D33BAA	
C	0-6"	P33CAA	1130
		D33CAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

BAILEY POND

Project Name: MMR

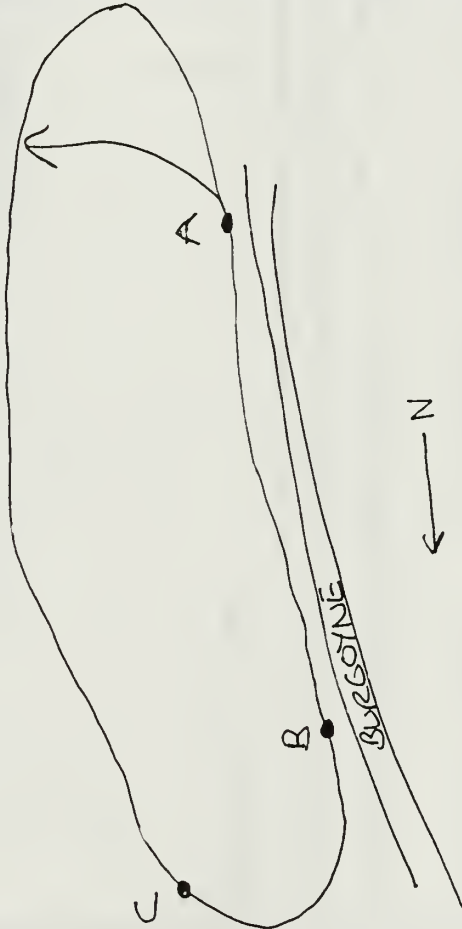
Project Number: 313000103

Date Started: 1/14/98

Date Finished: 1/14/98

Comments: Sampled by JR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	2-8"	P34AAA D34AAA	
B	2-8"	P34BAA D34BAA P34BAD D34BAD	
C	3-8"	P34CAA D34CAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

GIBBS POND

Project Name: MMR

Project Number: 313000103

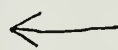
Date Started: 1/21/98

Date Finished: 1/21/98

Comments: Sampled by JPK/SF

1" Standing water

Sketch of Sample Area:



SILT FENCE

B

A

GIBBS RD

Sample Description

Location	Depth	ID #	Time
A	1-7"	P35AAA D35AAA	1100
B	2-8"	P35BAA D35BAA	1015

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:
OPENING POINT

Project Name: MMR

Project Number: 313000103

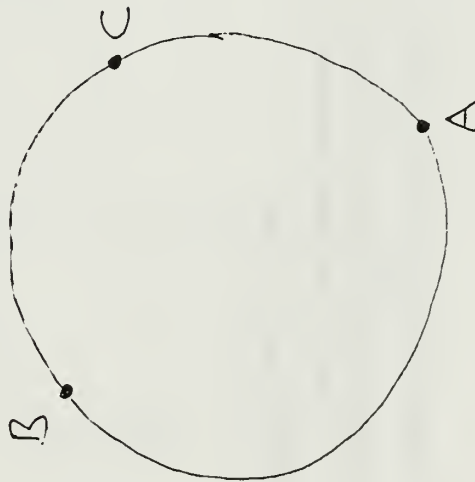
Date Started: 1/21/98

Date Finished: 1/21/98

Comments: sampled by JIL/SF

Sketch of Sample Area:

↑ N



Sample Description			
Location	Depth	ID #	Time
A	1-7"	P36AAA D36AAA	1230
B	1-7"	P36BAA D36BAA	1330
C	1-7"	P36CAA D36CAA	1400

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

BYPASS BOGS

Project Name: MMR

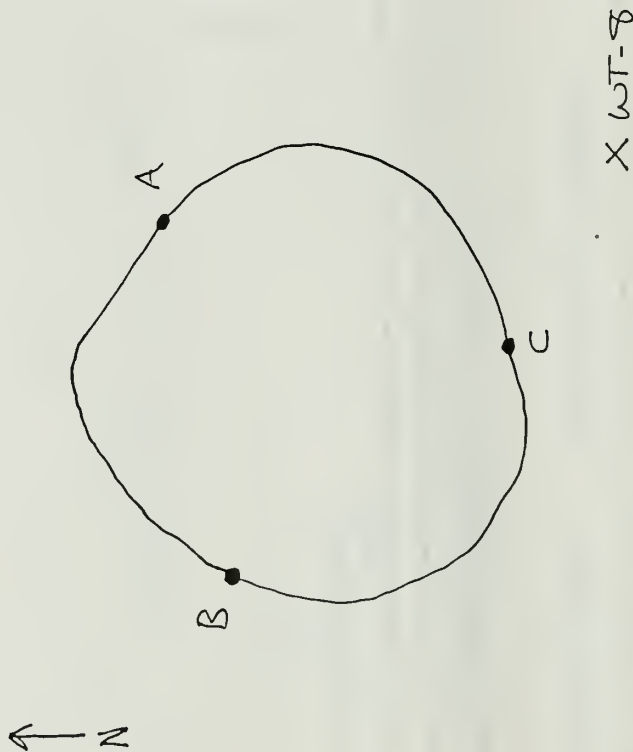
Project Number: 313000103

Date Started: 2/10/98

Date Finished: 2/10/98

Comments: Sampled by JR/SF

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P37AAA D37AAA	1330
B	1-6"	P37BAA D37BAA	1400
C	1-6"	P37CAA D37CAA	1300

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

GREAT POND

Project Name: MMR

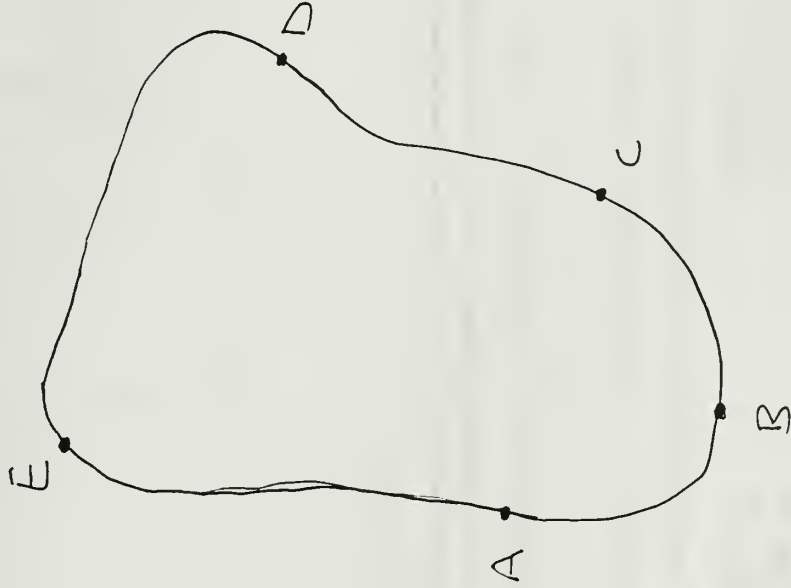
Project Number: 313000103

Date Started: 2/10/98

Date Finished: 2/10/98

Comments: Sampled by SF/SR

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P39AAA D39AAA	1030
B	0-6"	P39BAA D39BAA	930
C	0-6"	P39CAA D39CAA	945
D	0-6"	P39DAA D39DAA	845
E	0-6"	P39EAA D39EAA	900

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:
DOUGHLASS ROAD

Project Name: MMR

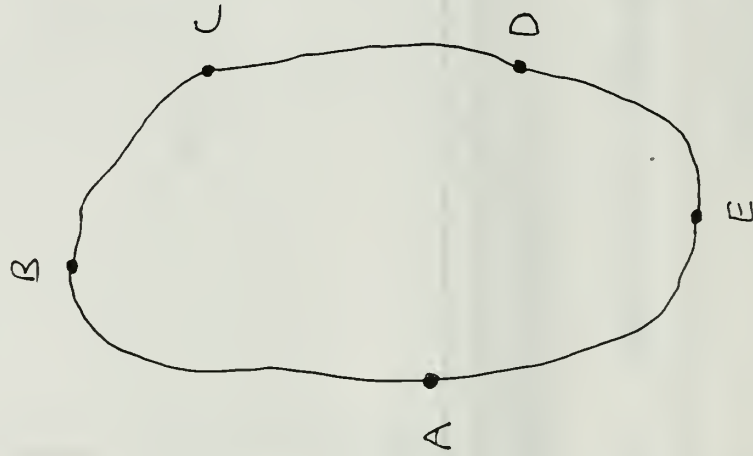
Project Number: 313000103

Date Started: 2/11/98

Date Finished: 2/11/98

Comments: Sampled by JR/SF

Sketch of Sample Area:



Sample Description			Time
Location	Depth	ID #	
A	2-7'	P40AAA	1430
		D40AAA	
		P40AAD	
		D40AAD	
B	1-6"	P40BAA	800
		D40BAA	
C	0-6"	P40CAA	815
		D40CAA	
D	0-6"	P40DAA	830
		D40DAA	
E	0-6"	P40EAA	845
		D40EAA	

OGDEN



SURFACE WATER AND SEDIMENT SAMPLE LOG

SAMPLE LOCATION:

Upper Pond

Project Name: MMR

Project Number: 313000103

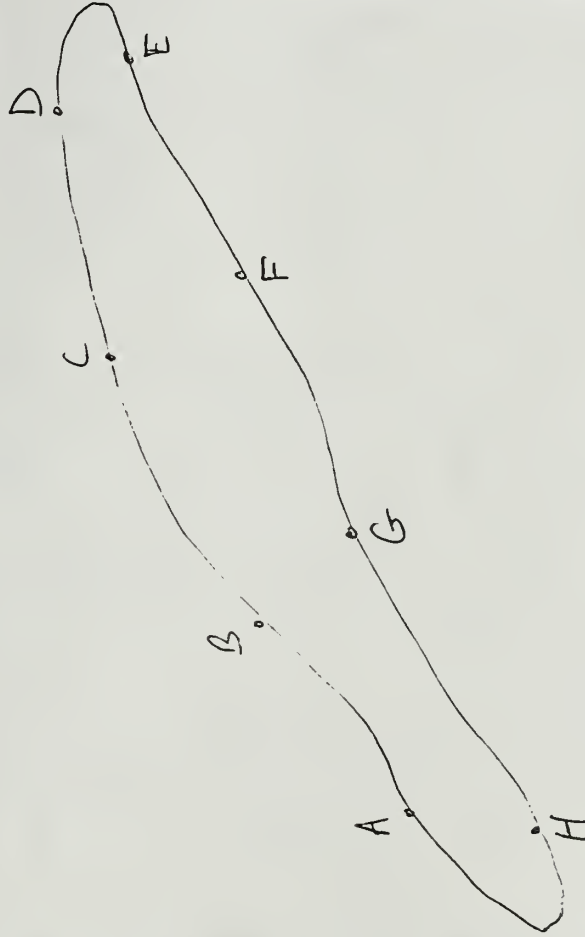
Date Started: 1/28/98

Date Finished: 1/22/98

Comments:

SAMPLED BY SF/jr

Sketch of Sample Area:



Sample Description			
Location	Depth	ID #	Time
A	0-6"	P43AAA D43AAA	830
B	6-12"	P43BAA D43BAA	845
C	6-12"	P43CAA D43CAA	900
D	6-12"	P43DAA D43DAA	915
E	6-12"	P43EAA D43EAA	935
F	12-18"	P43FAA D43FAA	1010
G	6-12"	P43GAA D43GAA	1300
H	6-12"	P43HAA D43HAA	1300

1

2

3

